LOCUS

CAA76561

53 aa

S NCBI	• •	• • • • •		••••• <u>\$</u> P	" rotein			
PubMed	Nucleotide	Protein	Genome	Structure	PopSet	Taxonomy	OMIM	Books
Search Nucl	eotide 🔻 fo	-	a su tiglio e		and the second second	النسينسي	Go   Clear	
Display de		_imits Save Text	Preview/I	ndex o Clipboard	History =	Clipboard	Die	tails

1: CAA76561. Phl p6 IgE bindin...[gi:3004485] BLink, Related Sequences, Nucleotide, Taxonomy, LinkOut

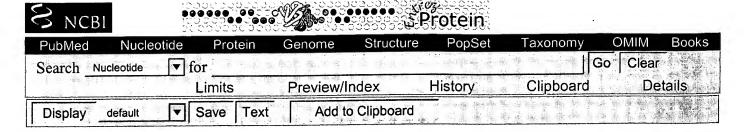
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            Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae;
            Pooideae; Poeae; Phleum.
                (residues 1 to 53)
REFERENCE
            Vrtala,S., Fischer,S., Grote,M., Vangelista,L., Pastore,A.,
  AUTHORS
            Sperr, W.R., Valent, P., Reichelt, R., Kraft, D. and Valenta, R.
            Molecular, immunological and structural characterization of Ph1 p6,
  TITLE
            a major allergen and P-particle-associated protein from Timothy
            grass (Phleum pratense) pollen
  JOURNAL
            J. Immunol. In press
               (residues 1 to 53)
REFERENCE
  AUTHORS
            Vrtala, S.
            Direct Submission
  TITLE
            Submitted (25-MAR-1998) S. Vrtala, Institute of General and
  JOURNAL
            Experimental Pathology, Wahringer Guertel 18-20, AKH, 1090 Wien,
            AUSTRIA
            Related sequence: Z27090.
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Revised: October 24, 2001.

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CAA76560



☐1: CAA76560. Phl p6 IgE bindin...[gi:3004473] BLink, Related Sequences, Nucleotide, Taxonomy, LinkOut

PLN

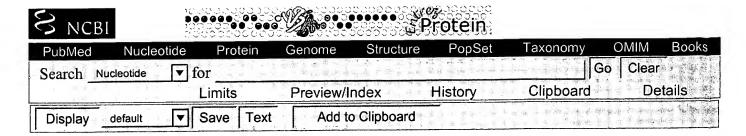
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VERSION
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            Pooideae; Poeae; Phleum.
                (residues 1 to 57)
REFERENCE
            Vrtala, S., Fischer, S., Grote, M., Vangelista, L., Pastore, A.,
  AUTHORS
            Sperr, W.R., Valent, P., Reichelt, R., Kraft, D. and Valenta, R.
            Molecular, immunological and structural characterization of Ph1 p6,
  TITLE
            a major allergen and P-particle-associated protein from Timothy
            grass (Phleum pratense) pollen
  JOURNAL
            J. Immunol. In press
                (residues 1 to 57)
REFERENCE
  AUTHORS
            Vrtala, S.
  TITLE
            Direct Submission
            Submitted (25-MAR-1998) S. Vrtala, Institute of General and
  JOURNAL
            Experimental Pathology, Wahringer Guertel 18-20, AKH, 1090 Wien,
            AUSTRIA
            Related sequence: Z27090.
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Revised: October 24, 2001.

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LOCUS

CAA76559



1: CAA76559. Phl p6 IgE bindin...[gi:3004471] BLink, Related Sequences, Nucleotide, Taxonomy, LinkOut

80 aa

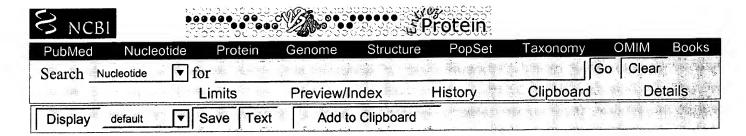
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            Pooideae; Poeae; Phleum.
               (residues 1 to 80)
REFERENCE
            Vrtala, S., Fischer, S., Grote, M., Vangelista, L., Pastore, A.,
 AUTHORS
            Sperr, W.R., Valent, P., Reichelt, R., Kraft, D. and Valenta, R.
            Molecular, immunological and structural characterization of Ph1 p6,
 TITLE
            a major allergen and P-particle-associated protein from Timothy
            grass (Phleum pratense) pollen
  JOURNAL.
            J. Immunol. In press
               (residues 1 to 80)
REFERENCE
 AUTHORS
            Vrtala, S.
            Direct Submission
  TITLE
            Submitted (25-MAR-1998) S. Vrtala, Institute of General and
  JOURNAL
            Experimental Pathology, Wahringer Guertel 18-20, AKH, 1090 Wien,
            AUSTRIA
            Related sequence: Z27090.
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       61 sealhiiagt pevhavkpga
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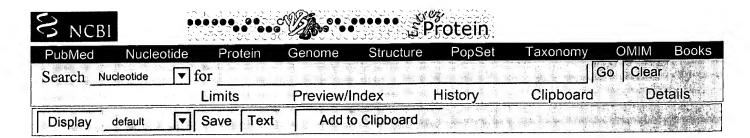
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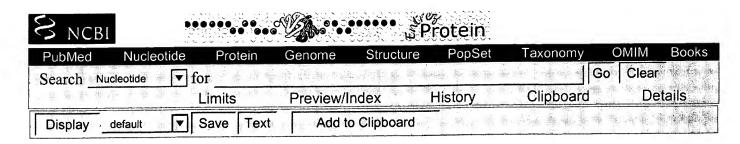
PLN

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LOCUS
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PID
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VERSION
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            Pooideae; Poeae; Phleum.
                (residues 1 to 106)
REFERENCE
            Vrtala, S., Fischer, S., Grote, M., Vangelista, L., Pastore, A.,
  AUTHORS
            Sperr, W.R., Valent, P., Reichelt, R., Kraft, D. and Valenta, R.
            Molecular, immunological and structural characterization of Ph1 p6,
  TITLE
            a major allergen and P-particle-associated protein from Timothy
            grass (Phleum pratense) pollen
  JOURNAL
            J. Immunol. In press
REFERENCE
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  AUTHORS
            Vrtala, S.
            Direct Submission
  TITLE
            Submitted (25-MAR-1998) S. Vrtala, Institute of General and
  JOURNAL
            Experimental Pathology, Wahringer Guertel 18-20, AKH, 1090 Wien,
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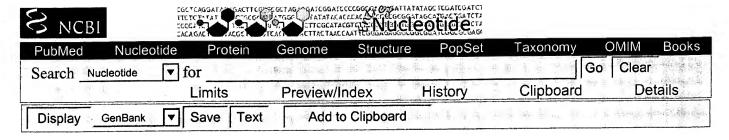
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DEFINITION
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PID
            CAA76556.1 GI:3004465
VERSION
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KEYWORDS
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SOURCE
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            Phleum pratense
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            Pooideae; Poeae; Phleum.
               (residues 1 to 138)
REFERENCE
            Vrtala, S., Fischer, S., Grote, M., Vangelista, L., Pastore, A.,
  AUTHORS
            Sperr, W.R., Valent, P., Reichelt, R., Kraft, D. and Valenta, R.
            Molecular, immunological and structural characterization of Ph1 p6,
  TITLE
            a major allergen and P-particle-associated protein from Timothy
            grass (Phleum pratense) pollen
            J. Immunol. In press
  JOURNAL
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REFERENCE
  AUTHORS
            Vrtala,S.
            Direct Submission
  TITLE
            Submitted (25-MAR-1998) S. Vrtala, Institute of General and
  JOURNAL
            Experimental Pathology, Wahringer Guertel 18-20, AKH, 1090 Wien,
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      121 alhiiagtpe vhavkpga
11
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☐1: CAA76557. Phl p6 allergen [...[gi:3004467] BLink, Related Sequences, Nucleotide, Taxonomy, LinkOut

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11-OCT-1999
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            Phl p6 allergen [Phleum pratense].
DEFINITION
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PID
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VERSION
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REFERENCE
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            Vrtala,S., Fischer,S., Grote,M., Vangelista,L., Pastore,A.,
  AUTHORS
            Sperr, W.R., Valent, P., Reichelt, R., Kraft, D. and Valenta, R.
            Molecular, immunological and structural characterization of Ph1 p6,
  TITLE
            a major allergen and P-particle-associated protein from Timothy
            grass (Phleum pratense) pollen
  JOURNAL
            J. Immunol. In press
REFERENCE
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            Vrtala, S.
  AUTHORS
            Direct Submission
  TITLE
            Submitted (25-MAR-1998) S. Vrtala, Institute of General and
  JOURNAL
            Experimental Pathology, Wahringer Guertel 18-20, AKH, 1090 Wien,
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Related Sequences, Protein, Taxonomy

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11-OCT-1999
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DEFINITION
ACCESSION
            Y16956
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VERSION
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KEYWORDS
SOURCE
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            Phleum pratense
            Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
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            Pooideae; Poeae; Phleum.
REFERENCE
                (bases 1 to 571)
            Vrtala,S., Fischer,S., Grote,M., Vangelista,L., Pastore,A.,
  AUTHORS
            Sperr, W.R., Valent, P., Reichelt, R., Kraft, D. and Valenta, R.
            Molecular, immunological and structural characterization of Ph1 p6,
  TITLE
            a major allergen and P-particle-associated protein from Timothy
            grass (Phleum pratense) pollen
  JOURNAL
            J. Immunol. In press
REFERENCE
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  AUTHORS
            Vrtala, S.
            Direct Submission
  TITLE
            Submitted (25-MAR-1998) S. Vrtala, Institute of General and
  JOURNAL
            Experimental Pathology, Wahringer Guertel 18-20, AKH, 1090 Wien,
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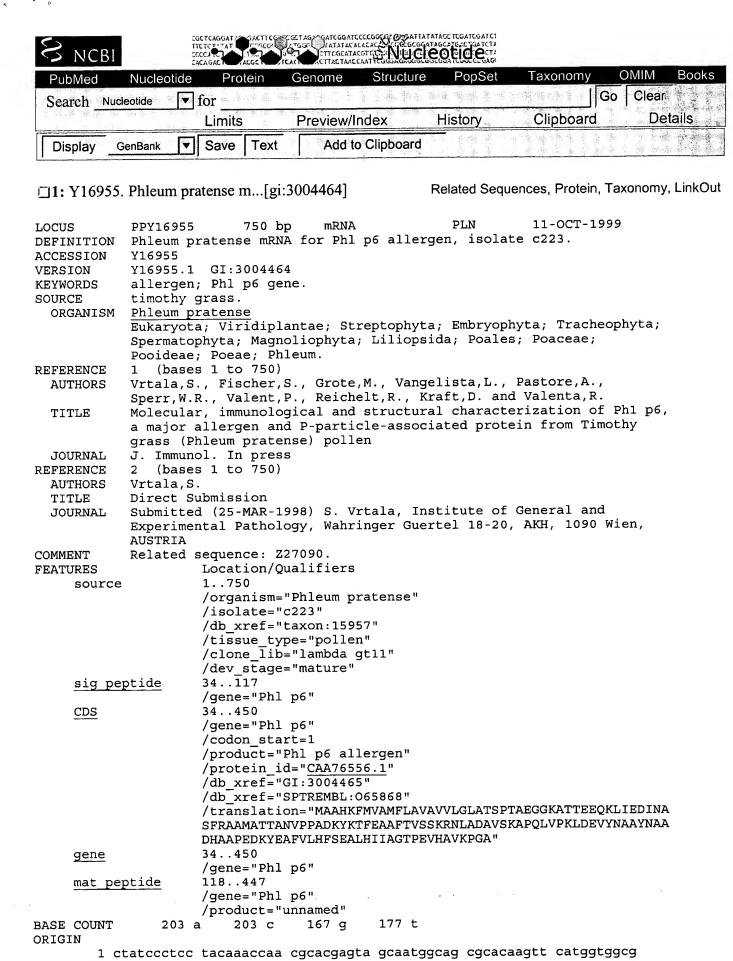
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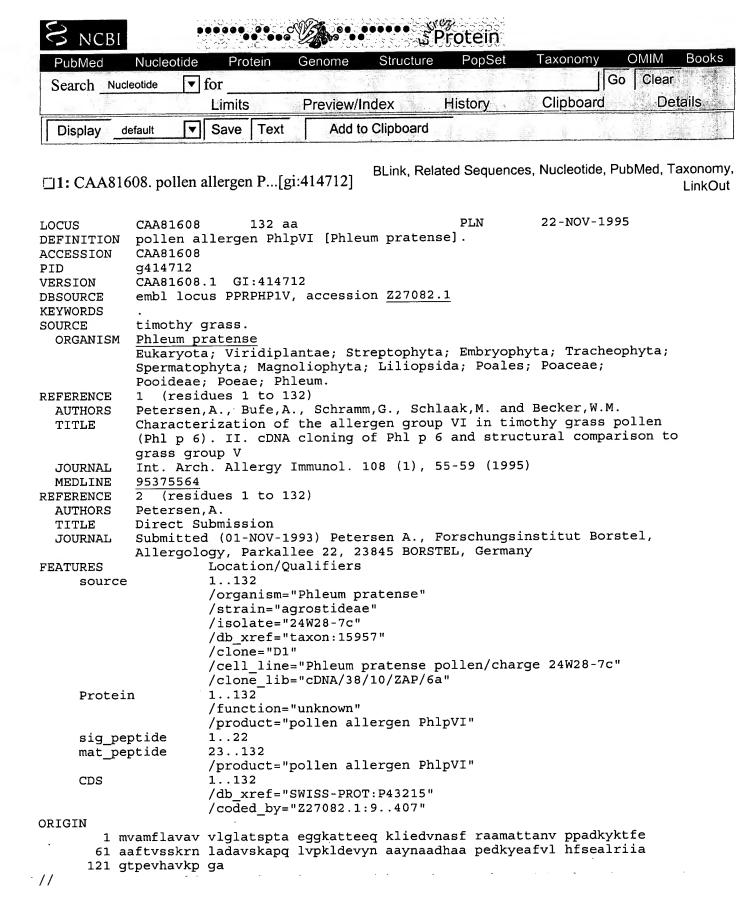
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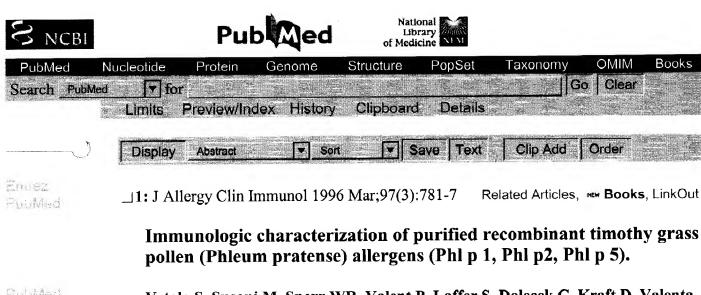
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11/19/01 12:49 PM



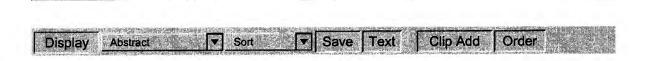


PubMed Services Vrtala S, Susani M, Sperr WR, Valent P, Laffer S, Dolecek C, Kraft D, Valenta R.

Institute of General and Experimental Pathology, University of Vienna, Austria.

BACKGROUND: Grass pollen allergens belong to the potent elicitors of type I allergy. Approximately 40% of allergic individuals display IgE reactivity with grass pollen allergens. In previous studies we have reported the complementary DNA cloning and expression in Escherichia coli of three of the most relevant timothy grass pollen allergens: Phl p 1, Phl p 2, and Phl p 5. OBJECTIVE: To achieve high level expression of immunologically active timothy grass pollen allergens in E. coli, the cDNAs were inserted into expression plasmids. METHODS: The three recombinant grass pollen allergens were expressed at high levels in E. coli as recombinant nonfusion proteins, purified by conventional protein chemical methods and tested for their IgE-binding capacity by immunoblot and ELISA, as well as in histamine release assays. RESULTS: Milligram amounts of pure recombinant allergens were obtained from cultured E. coli. IgE binding to purified recombinant Phl p 1, Phl p 2, and Phl p 5 could be demonstrated by immunoblot and ELISA. With ELISAs the percentage of grass pollen-specific IgE directed against the individual recombinant allergens could be estimated. In addition, the purified recombinant timothy grass pollen allergens induced dose-dependent and specific histamine release from patients' blood basophils. CONCLUSION: Purified recombinant timothy grass pollen allergens represent useful tools for diagnosis and therapy of grass pollen allergy.

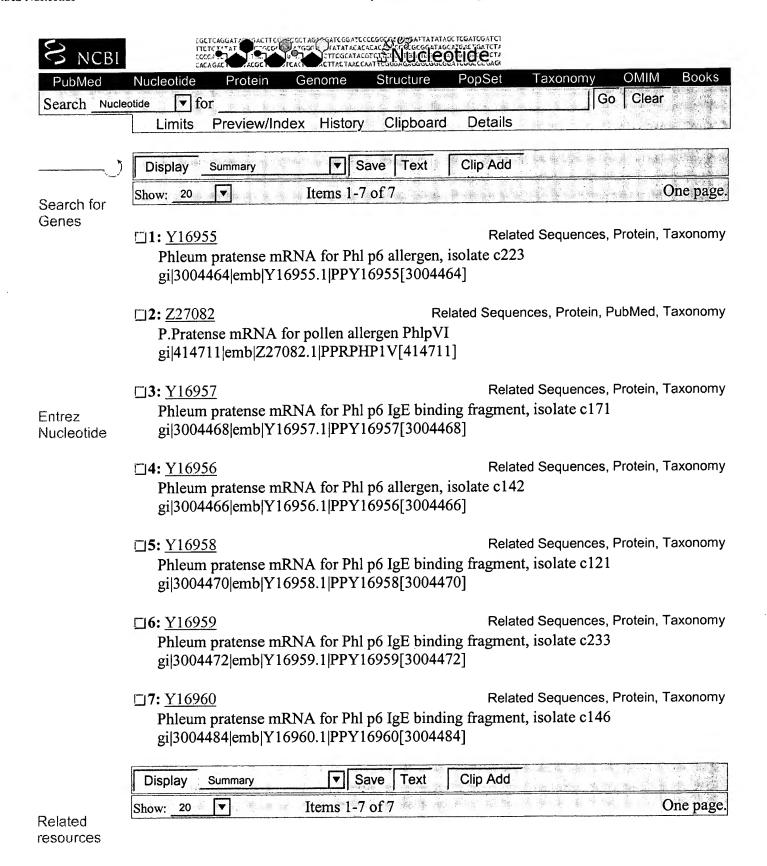
PMID: 8613635 [PubMed - indexed for MEDLINE]



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Department of Health & Human Services
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Related Resources

11/19/01 12:53 PM

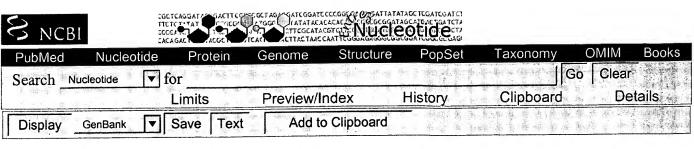


11/19/01 12:53 PM

Revised: October 24, 2001.

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spane-sub-solaris2 8 Nov 15/2001 (0-41.10



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Related Sequences, Protein, Taxonomy, LinkOut
☐1: Y16958. Phleum pratense m...[gi:3004470]
                                                                11-OCT-1999
                                                      PLN
                           572 bp
                                     mRNA
LOCUS
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            Phleum pratense mRNA for Phl p6 IgE binding fragment, isolate c121.
DEFINITION
            Y16958
ACCESSION
            Y16958.1 GI:3004470
VERSION
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KEYWORDS
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SOURCE
            Phleum pratense
  ORGANISM
            Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
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            Pooideae; Poeae; Phleum.
               (bases 1 to 572)
REFERENCE
            Vrtala,S., Fischer,S., Grote,M., Vangelista,L., Pastore,A.,
  AUTHORS
            Sperr, W.R., Valent, P., Reichelt, R., Kraft, D. and Valenta, R.
            Molecular, immunological and structural characterization of Ph1 p6,
  TITLE
            a major allergen and P-particle-associated protein from Timothy
            grass (Phleum pratense) pollen
  JOURNAL
            J. Immunol. In press
REFERENCE
               (bases 1 to 572)
            Vrtala, S.
  AUTHORS
  TITLE
            Direct Submission
            Submitted (25-MAR-1998) S. Vrtala, Institute of General and
  JOURNAL
            Experimental Pathology, Wahringer Guertel 18-20, AKH, 1090 Wien,
            AUSTRIA
            Related sequence: Z27090.
COMMENT
                     Location/Qualifiers
FEATURES
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     source
                     /organism="Phleum pratense"
                     /isolate="c121"
                      /db_xref="taxon:15957"
                     /tissue_type="pollen"
                      /clone lib="lambda gt11"
                     /dev stage="mature"
                     < 1...\overline{2}43
     CDS
                      /codon start=1
                     /product="Phl p6 IgE binding fragment"
                     /protein id="CAA76559.1"
                     /db xref="GI:3004471"
                     /db_xref="SPTREMBL:065868"
                     translation="ADKYKTFEAAFTVSSKRNLADAVSKAPQLVPKLDEVYNAAYNAA/
                     DHAAPEDKYEAFVLHFSEALHIIAGTPEVHAVKPGA"
                          141 c
                                   110 g
                                            137 t
BASE COUNT
                184 a
ORIGIN
        1 gcagacaagt ataagacatt cgaagccgcc ttcacggtgt cctcaaagag aaacctcgct
       61 gacgccgttt caaaggcgcc ccagctggtc cccaagctcg atgaagtcta caacgccgcc
      121 tacaatgctg ccgatcatgc cgccccagaa gacaagtatg aagccttcgt ccttcacttt
      181 tccgaggete tecacateat egeeggtace ecegaggtee acgetgteaa geeeggegeg
      241 tagttgttca gcacggtcaa gatccttgac agcgtcgctg ccaccggcgc tgcagccaac
      301 actgccagtg gctaaaaaat tcgactagct ccttcataca atgaatacac atgtatcatt
      361 caaacatact actgtacagt atgtgcatga cctagcggcg agcatttttt ttatgattaa
      421 tcttttatac atgggcgtga tcgagcgtgt gcatatgtgt aataattaat tttttatttt
      481 gatttgaaat tgtaatcctg ataagaaatg cgattaagtc catttaaaaa aaaaaaaaa
      541 aaaaaaaaa aaaaaaaaaa aaaaaaaaa aa
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GenCore version 4.5
Copyright (c) 1993 - 2000 Compugen Ltd.

OM protein - protein search, using sw model

Run on:
November 19, 2001, 13:09:45; Search time 11.59 Seconds
(without alignments)
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	(Without alignments) 407.874 Million cell updates/sec
Title: Perfect score: Sequence:	CAA76556 138 1 MAAHKFMVAMFLAVAVVLGLSEALHIIAGTPEVHAVKPGA 138
Scoring table:	OLIGO . Gapop 60.0 , Gapext 60.0
Searched:	93435 seqs, 34255486 residues

Total number of hits satisfying chosen parameters: 93435

Word size :

Minimum DB seq length: 0 Maximum DB seq length: 200000000 Post-processing: Listing first 50 summaries

Database : SwissProt\_39:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

# SUMMARIES

	cription		mne	phleum	lolium	phalari							Q40240 lolium pere		P22285 poa pratens		Q02567 phanerochae		-	esche	рошо		mycot	homo	P22059 homo sapien	P16258 oryctolagus			P50744 bacillus su	P41459 autographa	30	93	11 oryctol	PO8494 rattus norv
SUMMARIES		MPP6_PHLPR	MP5B_PHLPR	MP5A_PHLPR	MP5B_LOLPR	MP53_PHAAQ	NU3M_STRPU	YG81_HAEIN	RL19_BACSU	MP54_PHAAQ	RBS_AMAHP	VP12_BPPH6	MP5A_LOLPR	MP51_PHAAQ	MP92_POAPR	Y887_METTH	PEM1_PHACH	DFP_MYCTU	CLPX_CHLPN	PTVB_ECOLI	NMT2_HUMAN	ZRF1_HUMAN	YH98_MYCTU	CALD_HUMAN	OXYB_HUMAN	OXYB_RABIT	FTSK_ECOLI	FAS2_SCHPO	- 1	Y055_NPVAC	VG10_HSVEB	- 1	- 1	MGP_RAT
	Length DB	132																						793 1		809		842	67 1				103 1	
di	Query Match Le	58.0	10.9	8.7	8.7	7.2	6.5	8	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	4.3	•	٠	٠	4·3	4.3
	Score	80	15	12	12	10	σ	ω	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	9	9	9	9	o v	٥
	Result No.	п	7	m	4	2	9	7	8	σ.	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33

P19788 mus musculu 000762 arabidopsis 049814 mycobacteri 083820 treponema p P43359 homo sapien P3459 mus musculu P18380 vaccilia vi P82111 catharacta P82111 catharacta P82111 catharacta P07416 aegyplus mo P02001 gallus gall P81024 meleagris g P02002 phasianus c P04241 rhea americ P04442 struthio ca D08850 accipitar qualitation ca p08850 accipitation ca population popula	
MGP_MOUSE A9_ARATH MP70_MYCKA RL20_TREPA MAG5_HUMAN LY6D_MOUSE VY05_VACCV HBA1_CATMA HBA2_CATMA HBAD_CHICK HBAD_CHICK HBAD_REGA HBAD_RHEGA	HBA_AEGMO
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44444444444444444444444444444444444444	4.3
	ω.
88888888888888888888888888888888888888	50

## ALIGNMENTS

RESULT	LT 1
MPP6	
A D	MPP6_PHLPR STANDARD; PRT; 132 AA. P43215:
DI	
DI	01-NOV-1995 (Rel. 32, Last sequence update)
DI	(Rel. 35,
DE	GEN PHL P 6 PRE
GN	PHLPVI.
SO	Phleum pratense (Common timothy).
8	Eukaryota; Viridiplantae; Embryophyta; Tracheophyta; Spermatophyta;
ပ္ပ	Magnoliophyta; Liliopsida; Poales; Poaceae; Pooideae; Poeae; Phleum.
<b>X</b> O	NCBI_TaxID=15957;
RN	[1]
RP	SEQUENCE FROM N.A.
RC	STRAIN=CV. AGROSTIDEAE 24W28-7C;
RX	MEDLINE=95375564; Pubmed=7647586;
RA	Petersen A., Bufe A., Schramm G., Schlaak M., Becker W.;
RI	"Characterization of the allergen group VI in timothy grass pollen
RT	(Phl p 6). II. cDNA cloning of Phl p 6 and structural comparison to
RT	•
RL	Workstatchs: Allergy ImmunoLead08455-659で8995).
ပ္ပ	-!- SIMILARITY: BELONGS TO THE POA P IX/PHL P VI FAMILY OF ALLERGENS.
ပ္ပ	
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ပ္ပ	between the Swiss Institute of Bioinformatics and the EMBL outstation -
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ပ္ပ	modified and this statement is not removed. Usage by and for commercial
ပ္ပ	entities requires a license agreement (See http://www.isb-sib.ch/announce/
ပ္ပ	or send an email to license@isb-sib.ch).
ပ္ပ	
DR	EMBL; Z27082; CAA81608.1;
DR	InterPro; IPR002914;
DR	Pfam; PF01620; Pollen_allerq_2; 1.
ΚW	Allergen; Signal.
FT	
FT	CHAIN 23 132 POLLEN ALLERGEN PHL P 6.
S	921 MW;
ď	58.0%; Score 80;
Be Ma	Best Local Similarity 100.0%; Pred. No. 3.9e-74; Matches 80; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
ΟŊ	43 NASFRAAMATTANVPPADKYKTFEAAFTVSSKRNLADAVSKAPQLVPKLDEVYNAAYNAA 102

4) MASERAAMATTANVPPADKYKTFEAAFTVSSKRNLADAVSKAPQLVPKLDEVVNAAYNAA 96

37 NASFRAAMATTANVPPADKYKTFEAAFTVSSKRNLADAVSKAPQLVPKLDEVVNAAYNAA 96

103 DHAAPEDKYEAFVLHFSEAL 122

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PRT;
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                                                                                                                                                                                                                                                                           Pfam; PF01620; Pollen_allerg_2; 1.
                                                                                                                                                                                                                                          EMBL; X70942; CAA50281.1; -.
                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gene 134:235-240(1993).
                                                                                                                                                                                                                                                                 InterPro; IPR002914; -
                                                                                                                                                                                                                                                                                                                                                                                         29 GKATTEEQKLIE 40
                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity
Matches 12; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                       P04002;
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Q40237;
                                                                    REVISIONS.
                                                                                                                                                                                                                                                                                                  NON_TER
SEQUENCE
                                                                                                                                                                                                                                                                                         Allergen.
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                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                             STRAIN-AGROSTIDEAE; TISSUE-POllen; MEDLINE-95246885; PubMed-7729555; Bufe A., Schramm G., Keown M.B., Schlaak M., Becker W.M.; Major allergen Phl p Vb in timothy grass is a novel pollen RNase."; FEBS Lett. 363:6-12(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Phleum pratense (Common timothy).
Eukaryota, Viridiplantae; Embryophyta; Tracheophyta; Spermatophyta;
Magnoliophyta; Liliopsida; Poales; Poaceae; Pooideae; Poeae; Phleum.
                                                                                                                          Phleum pratense (Common timothy).
Eukaryota, Viridiplantae, Embryophyta, Tracheophyta, Spermatophyta,
Magnoliophyta, Liliopsida, Poales, Poaceae, Pooideae, Poeae, Phleum.
NCBI_TaxID=15957;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              10.9%; Score 15; DB 1; Length 284; 100.0%; Pred. No. 9.1e-08; 1.ve 0; Mismatches 0; Indels
                                                                            01-NOV-1997 (Rel. 35, Created)
15-JUL-1998 (Rel. 36, Last sequence update)
15-JUL-1999 (Rel. 38, Last annotation update)
POLLEN ALLERGEN PHL P 5B PRECURSOR (PHL P VB) (FRAGMENT).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 POLLEN ALLERGEN PHL P 5B.
E949FB3E0985295E CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             01-NOV-1997 (Rel. 35, Created)
15-JUL-1998 (Rel. 36, Last sequence update)
15-JUL-1998 (Rel. 36, Last annotation update)
POLLEN ALLERGEN PHL P 5A (PHL P VA) (FRAGMENT).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          286 AA.
                                                         284 AA
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                                                         PRT;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Pfam; PF01620; Pollen_allerg_2; 1.
Signal; Allergen.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 284 P
97 DHAAPEDKYEAFVLHFSEAL 116
                                                                                                                                                                                                                                                                                                                                                                                                                                              EMBL; Z27083; CAA81609.1; -. InterPro; IPR002914; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                        STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            29 GKATTEEOKLIEDIN 43
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        37 GKATTEEOKLIEDIN
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Matches 15; Conserv
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                                                                                                                                                                                  SEQUENCE FROM N.A.
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                                                        MP5B_PHLPR
Q40963;
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Q40962;
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REVISIONS.
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SIGNAL
                                  RESULT 3
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MEDLINE-94342654; PubMed-7520460;
Bufe A., Becker W.M., Schramm G., Petersen A., Mamat U., Schlaak M.;
"Major allergen Phl p Va (timothy grass) bears at least two different IgE-reactive epitopes.";
J. Allergy Clin. Immunol. 94:173-181(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -: SUBCELLULAR LOCATION: STARCH GRANULE (BY SIMILARITY).
-: TISSUE SPECIFICITY: POLLEN, STARCH GRANULES (BY SIMILARITY).
-: DISEASE: CAUSES GRASS POLLEN ALLERGY.
-: SIMILARITY: BELONGS TO THE POA P IX/PHL P VI FAMILY OF ALLERGENS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                    -!- SIMILARITY: BELONGS TO THE POA P IX/PHL P VI FAMILY OF ALLERGENS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
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NCBI_TaxID=4522;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE-94085783; pubMed-8262382;
Oog E.K., Griffith I.J., Knox R.B., Singh M.B.;
"Cloning of a cDNA encoding a group-V (group-IX) allergen isoform
from rye-grass pollen that demonstrates specific antigenic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ;
0
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8.7%; Score 12; DB 1; Length 255, 100.08; Pred. No. 0.0001; Indels
                                                                                                                                                                                                                                                                                     Bufe A.;
Submitted (SEP-1997) to the EMBL/GenBank/DDBJ databases.
-!- FUNCTION: EXPORT PROTEIN.
-!- DISEASE: CAUSES GRASS POLLEN ALLERGY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               286 AA; 28530 MW; C0E12BE83A3070F5 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          01-NOV-1997 (Rel. 35, Created)
01-NOV-1997 (Rel. 35, Last sequence update)
15-JUL-1998 (Rel. 36, Last annotation update)
MAJOR POLLEN ALLERGEN LOL P 5B PRECURSOR (LOL P VB).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         339 AA
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Query Match
Best Local Similarity
Matches 10; Conserv
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P15550;
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P44290;
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                                                                                                    NU3M_STRPU
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                                                                             MAJOR POLLEN ALLERGEN LOL P 5B.
9 x 3 AA TANDEM REPEATS OF [PA]-A-[TA].
1-1.
                                                                                                                                                                                        9 AA APPROXIMATE TANDEM REPEATS OF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Eukaryota, Viridiplantae, Embryophyta, Tracheophyta, Spermatophyta,
Magnoliophyta, Liliopsida, Poales, Poaceae, Pooideae, Poeae,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          of Pha a 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Suphioglu C., Singh M.B.;
"Cloning, sequencing and expression in Escherichia coli of Pha a 1
and four isoforms of Pha a 5, the major allergens of canary grass
                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                01-NOV-1997 (Rel. 35, Created)
01-NOV-1997 (Rel. 35, Last sequence update)
01-NOV-1997 (Rel. 35, Last annotation update)
MAJOR POLLEN ALLERGEN PHA A 5.3 PRECURSOR (PHA A 5) (CLONE 29)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MAJOR POLLEN ALLERGEN PHA A 5.3. 9DFC541079C1CC00 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            OF
                                                                                                                                                                                                                                                                                                                     Score 12; DB 1; Length 339;
Pred. No. 0.00012;
0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Clin. Exp. Allergy 25:853-865(1995).
-!- DISEASE: CAUSES GRASS POLLEN ALLERGY.
-!- SIMILARITY: BELONGS TO THE POA P IX/PHL P VI FAMILY
                                                                                                                                                                                                                                                                                         3CAA3115625E0610 CRC64;
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1-3.
1-4.
1-5.
1-6.
1-9.
6 X 9 AA APPROXIMAT!
T-A-T-P-A-A-A.
2-1 (INCOMPLETE).
2-2.
                                                                                                                                                                                                                                                             2-6 (INCOMPLETE)
                                                                                                                                                                                                                                                                                                                                                                                                                               294 AA.
                             InterPro; JPR002914; -. Pfam; PF01620; 1. Pfam; PF01620; Pollen_allerg_2; 1. PRINTS; PR00893; POAALLERGEN. Signal; Allergen; Multigene family; Repeat.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  InterPro; IPR002914; ...
Pfam; PF01620; Pollen_allerg_2; 1.
Allergen; Multigene family; Signal.
SIGNAL 1 25 POTENTIAL.
                                                                      POTENTIAL
                                                                                                                                                                                                                                                                      POLY-ALA
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                                                                                                                                                                                                                                                                                                               8.7%; Scc.
100.0%; Pre
0;
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MEDLINE=96105569; PubMed=8564724;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Phalaris aquatica (Canary grass).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    30344 MW;
                                                                                                                                                                                                                                                                                          33750 MW;
                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity luv.
 EMBL; L13083; AAA33405.1;
HSSP; P04002; 1WFA.
                                                                                                                                                                                                                                                                                                                                                                                                                               STANDARD;
                    InterPro; IPR001778; -.
                                                                                                                                                                                                                                                                                                                                                            GKATTEEQKLIE 40
                                                                                                                                                                                                                                                                                                                                                                       62 GKATTEEOKLIE 73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    294 AA;
                                                                                                                                                                                                                                                                                         339 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NCBI_TaxID=28479;
                                                                                                                                                                                                                                                                                                                                                                                                                              MP53_PHAAQ
P56166;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           pollen.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Phalaris
                                                                     SIGNAL
                                                                                        DOMAIN
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REPEAT
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                                                                             CHAIN
                                                                                                                     REPEAT
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This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@lib-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Eukaryota; Metazoa; Echinodermata; Eleutherozoa; Echinozoa;
Echinoidea; Euechinoidea; Echinacea; Echinoida; Strongylocentrotidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              mitochondrial DNA.";
J. NOL. Biol. 202:185-217(1988).
-!- CATALYTIC ACTIVITY: NADH + UBIQUINONE = NAD(+) + UBIQUINOL.
-!- SIMILARITY: BELONGS TO THE COMPLEX I SUBUNIT 3 FAMILY.
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Haemophilus.
NCBL_TaxID=727;
                        DB 1; Length 294;
0.011;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MEDLINE-89011951; PubMed-3172215; Jacobs H.T., Elliott D.J., Math V.B., Farquharson A.; "Nucleotide sequence and gene organization of sea urchin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 116;
                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
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01-APR-1990 (Rel. 14, Last sequence update)
15-JUL-1999 (Rel. 38, Last annotation update)
NADH-UBIQUINONE OXIDOREDUCTASE CHAIN 3 (EC 1.6.5.3).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Strongylocentrotus purpuratus (Purple sea urchin).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 1; LA
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01-NOV-1995 (Rel. 32, Last sequence update)
10-EDC-1998 (Rel. 37, Last annotation update)
HYPOTHETICAL PROTEIN HI1681 PRECURSOR.
                                                                                                                                                                                                                                                                                                                                                                                                                                                         116 AA
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                                                                                                    Mismatches
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                        Score 10;
Pred. No.
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7.2%; Scc.
100.0%; Pre
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                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                         STANDARD;
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                                                                                                                                                                                                                    Best Local Similarity
Matches 9; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
                                                                                                                                                                                EQKLIEDINA 44
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NCBI_TaxID=7668;
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NCBI_TaxID=28479;
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                                                                                                                                                                                                                                                                                                                                                                                        36 QKLIEDI 42
                                                                                                                                                                                                                                                                                                                                                                                                                      MP54_PHAAQ
P56167;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RBS_AMAHP
042516;
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SEQUENCE
                                                                                                                                                                                                  SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MP54_PHAAQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RBS_AMAHP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SERVER
                                                                                                                                                                                                                                                                                                                                                                                        δλ
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                                                                                                                                                                                                                                                                                                                                                                                                                                                            This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (see http://www.isb-sib.ch/announce/or send an email to license@lib-sib.ch).
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STRAIN=RD / KW20 / ATCC 51907;

MEDLINE=95550630; PubMed=7542800;

Fleischmann R.D., Adams M.D., White O., Clayton R.A., Kirkness E.F.,

Kerlavage A.R., Bult C.J., Tomb J.-F., Dougherty B.A., Merrick J.M.,

McKenney K., Sutton G., Fitzhugh W., Fields C.A., Gocayne J.D.,

Scott J.D., Shirley R., Liu L.-I., Glodek A., Kelley J.M.,

Weldman J.F., Phillips C.A., Spriggs T., Hedblom E., Cotton M.D.,

Utterback T.R., Hanna M.C., Nguyen D.T., Saudek D.M., Brandon R.C.,

Fine L.D., Fritchman J.L., Fuhrmann J.L., Geoghagen N.S.M.,

Gnehm C.L., McDonald L.A., Small K.V., Fraser C.M., Smith H.O.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                 "Whole-genome random sequencing and assembly of Haemophilus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 221;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        HYPOTHETICAL PROTEIN HI1681.
D308BEAC9C0E03C6 CRC64;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Bacteria; Firmicutes; Bacillus/Clostridium group;
Bacillus/Staphylococcus group; Bacillus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           5.8%; Score 8; DB 1;
100.0%; Pred. No. 0.97;
tive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 119_BAGSU STANDARD; PRT; 118 AA. 031742; 15-JUL-1998 (Rel. 36, Created) 15-JUL-1998 (Rel. 36, Last sequence update) 15-JUL-1998 (Rel. 36, Last annotation update) 50S RIBOSOMAL PROTEIN L19.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                  Science 269:496-512(1995).
-!- SIMILARITY: TO E.COLI YCCT.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      22 221 H
221 AA; 23395 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Hypothetical protein; Signal.
SIGNAL 1 21
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Matches 8; Conservative
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RL19_BACSU
AC 031742,
DT 15-JUL,
DT 15-JUL,
DF 805 R11
CC Bactll,
OX NCBL_1;
RN [1]
RN [1]
RN [1]
RN SEQUEN
RC STRAIN
RA KUNST
RA KUNST
RA SUBMIT
CC IND
CC AM
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15-DEC-1998 (Rel. 37, Last sequence update)
15-DEC-1998 (Rel. 37, Last annotation update)
RIBULOSE BISPHOSPHATE CARBOXYLASE SWALL CHAIN PRECURSOR (EC 4.1.1.39)
(RUBISCO SWALL SUBUNIT)
                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                pollen.";
Clin. Exp. Allergy 25:853-865(1995).
-!- DISEASE: CAUSES GRASS POLLEN ALLERGY.
-!- SIMILARITY: BELONGS TO THE POA P IX/PHL P VI FAMILY OF ALLERGENS.
Allergen; Multigene family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota; Viridiplantae; Embryophyta; Tracheophyta; Spermatophyta; Magnollophyta; Liliopsida; Poaceae; Poaceae; Pooldeae; Poeae; Phalaris.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota; Viridiplantae; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Caryophyllidae; Caryophyllales; Amaranthaceae; Amaranthus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Suphioglu C., Singh M.B.; "Cloning, sequencing and expression in Escherichia coli of Pha a and four isoforms of Pha a 5, the major allergens of canary grass
                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-NOV-1997 (Rel. 35, Created)
01-NOV-1997 (Rel. 35, Last sequence update)
01-NOV-1997 (Rel. 35, Last annotation update)
MAJOR POLLEN ALLERGEN PHA A 5.4 (PHA A 5) (CLONE 5) (FRACMENT)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
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                                                                                                                                                                                                                                                                 Length 118;
                                                                                                                                                                                                                                                                                                                     0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           175 AA; 17860 MW; 450B07C306CAAC6C CRC64;
                                                                                                                                                                                     118 AA; 13747 MW; 31E57C82256D0A70 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Amaranthus hypochondriacus (Prince's feather).
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100.0%; Pred. No. 8.2;
tive 0; Mismatches
                                                                                                                                                                                                                                                            5.1%; Score 7; DB 1;
100.0%; Pred. No. 5.9;
tive 0; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           175 AA
EMBL; 299112; CAB13477.1; -. Subtliast; B012667; rpls. InterPro; IPR001857; -. Pfam; PF01245; Ribosomal_L19; 1. PR0178; PR00161; RIBOSOMALL19. PROSITE; PS01015; RIBOSOMAL_L19. Ribosomal protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TISSUE=Pollen;
MEDLINE=96105569; PubMed=8564724;
                                                                                                                                                                                                                                                               Query Match 5.1
Best Local Similarity 100.
Matches 7; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Best Local Similarity 100.
Matches 7; Conservative
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                                           Villegas-Sepulveda N., Jofre y Garfias A., Jimenez-Moraila B.,
Herrezr-Estrella A., Sinpson J.,
Submitted (MAY-1995) to the EMBL/GenBank/DDBJ databases.
-I- FUNCTION: RUBISCO CATALYZES TWO REACTIONS: THE CARBOXYLATION OF
D-RIBULOSE I,5-BESPHOSPHATE, THE PRIMARY EVENT IN PHOTOSYNTHETIC
CARBON DIOXIDE FIXATION, AS WELL AS THE OXIDATIVE FRAGENTATION OF
THE PENTOSE SUBSTRATE IN THE PHOTORESPIRATION PROCESS. BOTH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Pfam; PF00101; KUDISCOSMALL.
PRINTS; PR00152; RUBISCOSMALL.
Photosynthesis; Carbon dioxide fixation; Photorespiration;
Lyase; Oxidoreductase; Monooxygenase; Chloroplast; Transit peptide.
TRANSIT 1 59 CHLOROPLAST (POTENTIAL).
FRANSIT 1 183 RIBULOSE BISPHOSPHATE CARBOXYLASE SMALL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                            REACTIONS OCCUR SIMULTANEOUSLY AND IN COMPETITION AT THE SAME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 McGraw T., Mindich L., Frangione B.;
"Nucleotide sequence of the small double-stranded RNA segment of bacteriophage phi 6: novel mechanism of natural translational control.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                         2 3-PHOSPHO-D-GLYCERATE.
-!- CATALYTIC ACTIVITY: D-RIBULOSE 1,5-BISPHOSPHATE + O(2) = 3-PHOSPHO-D-GLYCERATE + 2-PHOSPHOGLYCOLATE.
-!- S-PHOSPHO-D-GLYCERATE + 2-PHOSPHOGLYCOLATE.
-!- SUBGELLULAR LOCATION: CHLOROPLAST.
-!- SIMILARITY: BELONGS TO THE RUBISCO SMALL CHAIN FAMILY.
                                                                                                                                                                                                                                                        CATALYTIC ACTIVITY: D-RIBULOSE 1,5-BISPHOSPHATE + CO(2)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 183;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            viruses; Cystoviridae; Cystovirus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 1;
.8.6;
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01-JAN-1990 (Rel. 13, Last annotation update)
MORPHOGENETIC PROTEIN (P12 PROTEIN).
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InterPro; IPR000894; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
MEDLINE-86144085; Pubmed=3754015;
SEQUENCE FROM N.A.
STRAIN=AZTEÇ RACE; TISSUE=Leaf;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
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01-APR-1988 (Rel. 07, Last sequ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      20300 MW;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      J. Virol. 58:142-151(1986).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match 5.1
Best Local Similarity 100.
Matches 7; Conservative
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01-JAN-1990
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P07580;
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VP12_BPPH6
VP12_BPPH6
DC P0758D
DT 01-APR
DT 0
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use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -: SUBCELLULAR LOCATION: STARCH GRANULE.
-: TISSUE SPECIFICITY: POLLEN, STARCH GRANULES.
-: DISEASE: CAUSES GRASS POLLEN ALLERGY.
-: SIMILARITY: BELONGS TO THE POA P IX/PHL P VI FAMILY OF ALLERGENS.
                                                                                                                                                                                                                                                                             Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Eukaryota, Viridiplantae, Embryophyta, Tracheophyta, Spermatophyta,
Magnoliophyta; Liliopsida, Poales, Poaceae, Pooideae, Poeae, Lolium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.
MEDLINE-91142177; PubMed-1671715;
Singh M.B., Hough T., Theerakulpisut P., Avjioglu A., Davies S.,
Smith P.M., Taylor P., Simpson R.J., Ward L.D., McCluskey J.,
Puy R., Knox R.B.;
Tisolation of cDNA encoding a newly identified major allergenic
protein of rye-grass pollen: intracellular targeting to the
amyloplast...
Proc. Natl. Acad. Sci. U. S.A. 88:1384-1388(1991).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-NOV-1997 (Rel. 35, Last sequence update)
15-JUL-1998 (Rel. 36, Last annotation update)
MAJOR POLLEN ALLERGEN LOL, P SA PRECURSOR (LOL P VA) (LOL P IB)
LOL PIB.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5A.
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MAJOR POLLEN ALLERGEN LOL P
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                                                                                                                                                                                                                                   Length 195;
                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                            195 AA; 20293 MW; 460727BED818F60B CRC64;
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                                                                                                                                                                                                                              Score 7; DB 1;
Pred. No. 9;
; Mismatches
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v 100.0%; Pred. No. --
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POLY-ALA.
                                                                                                                                                                                                                                   Score 7;
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InterPro; IPR002914; -.
Pfam; PF01620; Pollen_allerg_2; 1.
Signal; Allergen; Multigene family
                                                                                                                                                                                                                                   100.08; F1:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Created)
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                                                                                                                EMBL; M12921; AAA32359.1;
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                                                                                                                                                                                                                              Query Match 5.1
Best Local Similarity 100.
Matches 7; Conservative
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(Rel. 35,
(Rel. 36,
                                                                                                                                       YHBPF6.
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Best Local Similarity
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                                                                                                                                          PIR; B23368;
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                                                                                                                                                            SEQUENCE
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MP5A_LOLPR
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STANDARD;
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O26973;
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SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         01-AŭG-1991 (Rel. 19, Created)
01-AŭG-1991 (Rel. 19, Last sequence update)
01-NOV-1997 (Rel. 35, Last annotation update)
POLLEN ALLERGEN KBG 41 PRECURSOR (POLLEN ALLERGEN POA P 9) (POA P IX).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ciln. Exp. Allergy 25:853-865(1995).
-!- DISEASE: CAUSES GRASS POLLEN ALLERGY.
-!- SIMILARITY: BELONGS TO THE POA P IX/PHL P VI FAMILY OF ALLERGENS
InterPro; IPR002914; -.
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Magnoliophyta; Liliopsida; Poales; Poaceae; Pooideae; Poeae; Poa.
NCBI_TaxID=4545;
                                                                                                                                                                                                                                                                                                                                                         Phalaris aquatica (Canary grass).
Eukaryota; Viridiplantae; Embryophyta; Tracheophyta; Spermatophyta;
Magnoliophyta; Liliopsida; Poales; Poaceae; Pooideae; Poeae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Suphioglu C., Singh M.B.; "Cloning, sequencing and expression in Escherichia coli of Pha a 1 and four isoforms of Pha a 5, the major allergens of canary grass
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Silvanovich A., Astwood J., Zhang L., Olsen E., Kisil F.T., Sehon A.H., Mohapatra S.S., Hill R.D.; Nucleotide sequence analysis of three cDNAs coding for Poa p IX isoallergens of Kentucky bluegrass pollen."; J. Biol. Chem. 266:1204-1210(1991).
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                                                                                                                                                                                                                                        01-NOV-1997 (Rel. 35, Created)
01-NOV-1997 (Rel. 35, Last sequence update)
01-NOV-1997 (Rel. 35, Last annotation update)
MAJOR POLLEN ALLERGEN PHA A 5.1 PRECURSOR (PHA A 5) (CLONE 28).
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100.0%; Pred. No. 14;
tive 0; Mismatches
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Allergen; Multigene family; Signal.
SIGNAL 1 23 POTENTIAL.
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MEDLINE=91093232; PubMed=1702432;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDLINE-96105569; PubMed-8564724;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NCBI_TaxID=28479;
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EVHAVKP 157
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01-NOV-1997
01-NOV-1997
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P22285;
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P56164;
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MP51_PHAAQ
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CC Phalar
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M992_POAPR
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                                                                                                                                                          This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the BMBL outstation the European Bioinformatics Institute are no restrictions on its use by non-profit institutions as long as its content is in no way
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"Complete genome sequence of Methanobacterium thermoautotrophicum
-i- TISSUE SPECIFICITY: POLLEN.
-i- MISCELLANEOUS: ITS C-TERMINUS MIGHT BE MEMBRANE-ASSOCIATED.
-i- SIMILARITY: BELONGS TO THE POA P IX/PHL P VI FAMILY OF ALLERGENS.
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Archaea; Euryarchaeota; Methanobacteriales; Methanobacteriaceae;
Methanothermobacter.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   deltaH: functional analysis and comparative genomics.";
J. Bacteriol. 179:7135-7155(1997).
--- SUBCELLIUER LOCATION: INTEGRAL MEMBRANE PROFEIN (POTENTIAL).
--- SIMILARITY: BELONGS TO THE UPF0104 FAMILY.
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2 X 12 AA TANDEM REPEATS.
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30-MAY-2000 (Rel. 39, Last sequence update)
30-MAY-2000 (Rel. 39, Last annotation update)
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InterPro; IPR002914; -.
Pfam; PF01620; Pollen_allerg_2; 1.
PRINTS; PR00833; POAALLERGEN.
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MEDLINE=98037514; PubMed=9371463;
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                                                                                                                                                                Gaps
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Gold M.H.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        'Characterization of manganese(II) binding site mutants of manganese
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    X-RAY CRYSTALLOGRAPHY (2.0 ANGSTROMS) OF MUTANTS.
MEDILNE-97362247; Pubmed-9211904;
Sundaramoorthy M., Kishi K., Gold M.H., Poulos T.L.;
"Crystal structures of substrate binding site mutants of manganese
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              X-RAY CRYSTALLOGRAPHY (2.06 ANGSTROMS).
MEDLINE=95105154; PubMed=7806497;
Sundaramoorthy M., Kishi K., Gold M.H., Poulos T.L.;
"The crystal structure of manganese peroxidase from Phanerochaete chrysosporium at 2.06-A resolution.";
J. Biol. Chem. 269:32759-32767(1994).
                                                                                                                                                                                                                                                   PEMI_PHACH STANDARD; PRT; 378 AA.
002567; 001788;
01-0CT-2000 (Rel. 40, Last sequence update)
01-0CT-2000 (Rel. 40, Last annotation update)
01-0CT-2000 (Rel. 40, Last annotation update)
PEROXIDASE MANGANESE-DEPENDENT I PRECURSOR (EC 1.11.1.7) (MNP-1)
                                                                                                                                                                                                                                                                                                                                                                                                               Godfrey B.J., Mayfield M.B., Brown J.A., Gold M.H.;
Characterization of a gene encoding a manganese peroxidase from
Phanerochaete chrysosporium.";
Gene 93:119-124(1990).
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                                                                                                                                                                                                                                                                                                                                  Phanerochaete chrysosporium.
Eukaryota; Fungi; Basidiomycota; Hymenomycetes; Stereales;
Corticiaceae; Phanerochaete.
                                                                                                                                         Length 351;
                                                                                                                                                              Indels
                                                                                                             37AD5210A93A4716 CRC64;
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100.0%; Pred. No. ...
0; Mismatches
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                                                POTENTIAL. POTENTIAL.
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                     Transmembrane.
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MEDLINE=89174785; PubMed=2925681;
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          EMBL; AE000864; AAB85385.1; -.
                                                                                                              MW.
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Best Local Similarity 100.
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157
185
264
2295
348
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24 FLAVAVV 30
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                     Hypothetical
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                                                                                                                                                                                                                                             SIMILARITY: BELONGS TO THE PEROXIDASE FAMILY. LIGNINASE SUBFAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
peroxidase.";
J. Biol. Chem. 272:17574-17580(1997).

-!- FUNCTION: CATALYZES THE OXIDATION OF MN(II) TO MN(III). THE LATTER, ACTING AS A DIFFOSIBLE REDOX MEDIATOR, IS CAPABLE OF OXIDIZING A VARIETY OF LIGNIN COMPOUNDS.

-!- CATALYTIC ACTIVITY: 2 MN(II) + 2 H(+) + H(2)O(2) = 2 MN(III) +
                                                                                                                      -!- SUBCELLULAR LOCATION: SECRETED.
-!- INDUCTION: DURING WOUND-HEALING AND BY FACTORS WHICH INDUCE
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-LINKED (GLCNAC. . .) (PC
-> L (IN REF. 2).
17A9A8F642441F27 CRC64;
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Last annotation update)
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100.0%; Pred. No. 16;
tive 0; Mismatches
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39556 MW;
                                                                                                       -!- COFACTOR: BINDS HEME.
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378 AA;
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DFP_MYCTU
ID DPP_MYCTU
AC P71661;
DT 01-NOV-1997 (
DT 30-MAY-2000 (
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Weidman J., Khouri H., Craven B., Bowman C., Dodson R., Nelson W., DeBoy R., Kolonay J., McClarty G., Salzberg S.L.,
                                                                                                                                                                                                   MEDLINE=20330349; PubMed=10871362;
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PRINTS; PR00300; CLPPROTEASEA.
Chaperone; ATP-binding.
ZN_FING 9 34 C
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InterPro; IPR001270; -.
                    Gwinn M., Nelson W., Do
Elsen J., Fraser C.M.;
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                                                                                       pneumoniae AR39.";
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PTVB_ECOLI
P32154;
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SEQUENCE
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                                                                                                                                                                                                                   Cole S.T., Brosch R., Parkhill J., Garnier T., Churcher C., Harris D., Gordon S.V., Eiglmeier K., Gas S., Barry C.E. III, Tekaia F., Badcock K., Basham D., Brown D., Chillingworth T., Connor R., Davis R., Devlin K., Feltwell T., Gentles S., Hamlin N., Holroyd S., Hornsby T., Jagels K., Kroph A., McLean J., Moule S., Murphy L., Oliver S., Osborne J., Quail M.A., Rajandream M.A., Rogers J., Rutter S., Seeger K., Skelton S., Squares S., Sqares R., Sulston J.E., Taylor K., Whitehead S., Barrell B.G.;
"Deciphering the biology of Mycobacterium tuberculosis from the complete genome sequence.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FUNCTION: FLAVOPROTEIN AFFECTING SYNTHESIS OF DNA AND PANTOTHENATE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Read T.D., Brunham R.C., Shen C., Gill S.R., Heidelberg J.F.,
White O., Hickey E.K., Peterson J., Utterback T., Berry K., Bass S.,
                                                                Bacteria; Firmicutes; Actinobacteria; Actinobacteridae;
Actinomycetales; Corynebacterineae; Mycobacteriaceae; Mycobacterium.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Kalman S., Mitchell W., Marathe R., Lammel C., Fan J., Hyman R.W., Olinger L., Grimwood J., Davis R.W., Stephens R.S.; "Comparative genomes of Chlamydia pneumoniae and C. trachomatis."; Nat. Genet. 21:385-389(1999).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 418;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   418 AA; 43577 MW; 48BD95E536595506 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Bacteria; Chlamydiales; Chlamydiaceae; Chlamydophila
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               092760; 09J0E4;
30-MAY-2000 (Rel. 39, Created)
30-MAY-2000 (Rel. 39, Last sequence update)
01-OCT-2000 (Rel. 40, Last annotation update)
ATP-DEPENDENT CLP PROTEASE ATP-BINDING SUBUNIT CLPX.
CLPX OR CPN0846 OR CP1023.
DNA/PANTOTHENATE METABOLISM FLAVOPROTEIN HOMOLOG.
DFP OR RV1391 OR MTCY21B4.08.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Chlamydia pneumoniae (Chlamydophila pneumoniae)
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Pred. No. 17;
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100.0%; Pred. No. 17.
7. 0; Mismatches
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MEDLINE-99206606; PubMed-10192388;
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                                                                                                                                                                                                   MEDLINE-98295987; PubMed-9634230;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           METABOLISM (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EMBL; 280108; CAB02174.1; -. TubercuList; Rv1391; -.
                                             Mycobacterium tuberculosis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              7; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                               Nature 393:537-544(1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Best Local Similarity
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263 LADAVSK 269
                                                                                                         NCBI_TaxID=1773;
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                                                                                                                                                                              STRAIN-H37RV
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CLPX_CHIPN
CLPX_CAC
AC 092760
DT 30-MAX
DT 30-MAX
DT 01-OCT
DE ATP-DE
GN CLIPX OC
OC BACTER
OC B
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01-0CT-1993 (Rel. 27, Last sequence update)
01-0CT-1997 (Rel. 35, Last annotation update)
PTS SYSTEM, FRUCTOSE-LIKE-1 IIBC COMPONENT (PHOSPHOTRANSFERASE ENZYME
II, BC COMPONENT) (EC 2.7.1.69).
                                                                                                                                                                                                                                                                                                                                  CLP PROTEASE
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MEDLINE-93347969; PubMed-8346018;
Plunkett G. III, Burland V.D., Daniels D.L., Blattner F.R.;
"Analysis of the Escherichia coli genome. III. DNA sequence of the region from 87.2 to 89.2 minutes.";
                                                                                                                                                                                   Bacteria; Proteobacteria; gamma subdivision; Enterobacteriaceae;
Escherichia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
Genome sequences of Chlamydia trachomatis MoPn and Chlamydia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 421;
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46351 MW; BEFB6BECE3B007F3 CRC64;
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. 17;
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100.0%; Pred. No. 17;
ative 0; Mismatches
                                                     Nucleic Acids Res. 28:1397-1406(2000)
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                                                                                                                                                                                                                                                         CERTAIN CELLUIAR AND VIRAL PROTEINS.

-!- CATALYTIC ACTIVITY: TETRADECANOYL-COA + GLYCYL-PEPTIDE = COA + N-
TETRADECANOYLGLYCYL-PEPTIDE.
-!- SUBCELLULAR LOCATION: CYTOPLASMIC.
-!- SIMILARITY: BELONGS TO THE NMT FAMILY.
                                                                                                                                                                              Giang D.K., Cravatt B.F.;
"A second mammalian N-myristoyltransferase.";
J. Blol. Chem. 273:6595-6598(1998).
-!- FUNCTION: ADDS MYRISTOYL GROUP TO N-TERMINAL GLYCINE RESIDUE OF
                        Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Westendorf \text{J.M.}; "Identification of novel M phase phosphoproteins by expression
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 498;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDLINE=97039687; PubMed=8885239;
Matsumoto-Taniura N., Pirollet F., Monroe R., Gerace L.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               POLY-LYS.
1B1486CC6559B6A9 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-OCT-2000 (Rel. 40, Last sequence update)
01-OCT-2000 (Rel. 40, Last annotation update)
2UOTIN RELATED FACTOR-1 (M-PHASE PHOSPHOPROTEIN 11).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 cloning.";
Mol. Biol. Cell 7:1455-1469(1996).
1-1- SUBCELLULAR LOCATION: NUCLEAR (BY SIMILARITY).
1-1- PTW: PHOSPHORYLATED IN M (MITOTIC) PHASE.
1-1- SIMILARITY: CONTAINS 1 J DOMAIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ;
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o. 20;
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Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5.1%; Scor.
v 100.0%; Pre
                                                                                                                                                                MEDLINE-98175914; PubMed-9506952;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             498 AA; 56980 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-0CT-2000 (Rel. 40, Created)
01-0CT-2000 (Rel. 40, Last seq
01-0CT-2000 (Rel. 40, Last anno
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EMBL; AF043325; AAC09295.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ThterPro; IPR000903; -. Pfam: PF01233; NMT; 1. PR0SITE; PS00975; NMT_1; 1. PROSITE; PS00976; NMT_2; 1. Transferase; Acyltransferase.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ZRF1 OR MPHOSPH11 OR MPP11
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Matches 7; Conservative
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                                                                                                                     SEQUENCE FROM N.A.
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                                                                                   NCBI_TaxID=9606;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           603801;
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                                                                                                                                                      PIOCEIN SCI., 3:440-450(1994).

-1- FUNCTION: THIS IS A COMPONENT OF THE PHOSPHOENOLPYRUVATE-DEPENDENT SUGAR PHOSPHOTRANSFERSE SYSTEM (PTS), A MAJOR CARBOHYDRATE ACTIVE -TRANSPORT SYSTEM. THE ILOD DOMAINS CONTAIN THE SUGAR BINDING SITE AND THE TRANSMEMBRANE CHANNEL; THE ILA DOMAIN CONTAINS THE PRIMARY PHOSPHORYLATION SITE (THE DONOR IS PHOSPHO-HPR); IIA TRANSFERS IT TO PHOSPHORYL GROUP TO THE IIB DOMAIN WHICH FINALLY TRANSFERS IT TO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NMT2_HUMAN STANDARD; PRT; 498 AA.
060551;
30-MAY-2000 (Rel. 39, Created)
30-MAY-2000 (Rel. 39, Last sequence update)
30-MAY-2000 (Rel. 39, Last annotation update)
30-MAY-2000 (Rel. 39, Last annotation update)
GLYCYLEBPIDE N-TETRADECANOYLTRANSFERASE 2 (EC 2.3.1.97) (PEPTIDE N-MYRISTOYLTRANSFERASE 2) (MYRISTOYLTRANSFERASE 2) (MYRISTOYLTRANSFERASE 2) (MYRISTOYLTRANSFERASE 2)
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                                                                             Reizer J., Michotey V., Reizer A., Saier M.H. Jr.;
"Novel phosphotransferase system genes revealed by bacterial genome
analysis: unique, putative fructose- and glucoside-specific
                                                                                                                                                                                                                                                                                                                CATALYTIC ACTIVITY: PROTEIN N-PHOSPHOHISTIDINE + SUGAR = PROTEIN HISTIDINE + SUGAR PHOSPHATE. SUBCELLULAR LOCATION: INTEGRAL MEMBRANE PROTEIN, INNER MEMBRANE
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EMBL; AE000465; AAC76881.1; -.
PIR; S40843; S40843.
EcoGene; EG11863; frvb.
Phosphotransferase system; Sugar transport; Transferase; Transmembrane; Inner membrane; Phosphorylation.

FIRD DOMAIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 485;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               E6D2FA72730C2B87 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 1;
. 19;
                                                                                                                                                                                                                                                                                                                                                                                           SIMILARITY: CONTAINS A PTS EIIC DOMAIN. SIMILARITY: CONTAINS A PTS EIIB DOMAIN.
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Pred. No.
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Nucleic Acids Res. 21:3391-3398(1993).
                                                            MEDLINE=94290319; PubMed=8019415;
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                                        DISCUSSION OF SEQUENCE.
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485 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Bacteria; Firmicutes; Actinobacteria; Actinobacteridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        32F269B4A532AD46 CRC64;

    -!- SIMILARITY: BELONGS TO THE CBXX/CFQX FAMILY.

                                                                                                                                                                                                                                                                                                  R HSSP; P25685; 1-100.
R InterPro; IPR001005; -
R InterPro; IPR001005; -
R InterPro; IPR001623; -
R Pfam; PF00226; DnaJ; -1.
R Pfam; PF00249; myb_DNN-binding; 2.
R PROSITE: PS00634; MYB_2; 1.
R PROSITE: PS0034; MYB_2; 1.
R PROSITE; PS0090; MYB_3; 1.
Chaperone; Nuclear Protein; Phosphorylation.
DOMAIN 94 163 J-DOMAIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 1;
D. 22;
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30-MAY-2000 (Rel. 39, Last sequence update)
30-MAY-2000 (Rel. 39, Last annotation update)
MAYOPHETICAL 67.8 KDA PROTEIN RV1798.
RV1798 OR MYV049.20.
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Best Local Similarity 100.0%; Pred. No. 22;
Matches 7; Conservative 0; Mismatches
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                                                                                                                                                                                                                                                                       EMBL; X98260; CAA66913.1; ALT_INIT
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O53947;
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YH98_MYCTU
TH98_MYCTU
DT 30-MAX
DT 3
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Tuberculist; Rv1798; -

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ARCCULATION OF ACTORIOSIS INTERMACTIONS IN SMOOTH MUSCLE AND NONWISCLE CELLS (COULD ACT SA A BRIDGE BETWEEN MYOSIN AND ACTIN FILLAMENTS). STIMULATES ACTIN BINDING OF TROPOMYOSIN WHICH WIREAEST THE STABILLIZATION OF ACTIN FILLAMENT STRUCTURE. IN MUSCLE TISSUES, INHIBITIS THE ACTOMYOSIN APPASE BY BINDING TO F-ACTIN. TISSUES, INHIBITIS ATTROPOMYOSIN APPASE BY BINDING TO F-ACTIN. THOSEN TROPOMYOSIN APPASE BY BINDING TO F-ACTIN. THOSEN, TWO MOLECULES OF TROPOMYOSIN. INFRACTS WITH ACTIN, MYOSIN, TWO MOLECULES OF TROPOMYOSIN AND WITH CALMODULIN. ALSO PLAY AN ESSENTIAL ROLE DURING CELLULAR MITOSIS AND RECEPTOR CAPPING.

-!- SUBCELLULAR LOCATION: ON THIN FILLAMENTS IN SMOOTH MUSCLE AND ON STRESS FIBERS IN FIBROBLASTS (NONMUSCLE) (BY SIMILARITY).

-!- ALTERNATIVE PRODUCTS: THREE NON-MUSCLE ISOPORMS CALLED HELA L-CAD I, MI-38 L-CAD II, MI-38 L-CAD II/1-CAD AND ONE SMOOTH-MUSCLE ISOFORM H-CAD (SHOWN HERE) ARE PRODUCED BY ALTERNATIVE SPLICING.

-!- TISSUE SPECIFICITY: HIGH-MOLECULAR-WEIGHT CALDESMON) IS PREDOMINANTLY EXPRESSED IN SMOCHH MUSCLES, WHEREAS LOW-MUSCLE TISSUES AND CELLS. NOT EXPRESSED IN SKELETAL MUSCLE OR HEADER.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A. (ISOFORM WI-38 L-CAD II).
TISSUE-Lung fibroblast;
MEDLINE-9135497; PubMed-1885618;
MOVY R.E., Lin J.L.-C., Lin J.J.-C.;
"Characterization of cDNA clones encoding a human fibroblast caldesmon isoform and analysis of caldesmon expression in normal and
                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDLINE-93101679; PubMed-1465449;
Hayashi K., Yano H., Hashida T., Takeuchi R., Takeda O., Asada K.,
Takahashi E.-I., Kato I., Sobue K.;
Takahashi E.-I., Kato I., Sobue K.;
"Genomic structure of the human caldesmon gene.";
Proc. Natl. Acad. Sci. U.S.A. 89:12122-1226(1992).
-!- FUNCTION: ACTIN- ADM MYOSIN-BINDING PROTEIN IMPLICATED IN THE REGULATION OF ACTOMYOSIN INTERACTIONS IN SMOOTH MUSCLE AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
NCBL_TaxID=9606;
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"Cloning of cDNAs encoding human caldesmons.";
Gene 112:197-204(1992).
                                                                                                                                                                                                                                               Length 610;
                                                                                                                                                                                                                                                                                                                         Indels
                                                              Hypothetical protein; ATP-binding.
NP_BIND 357 364 ATP (POTENTIAL).
SEQUENCE 610 AA; 67755 MW; E6DE3C2D1C5356BC CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A. (ISOFORMS WI-38 L-CAD II AND H-CAD)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CALD_HUMAN STANDARD; PRT; 793 AA. 005682; Q13979; Q13978; Q14741; Q14742; Q1-NOV-1997 (Rel. 35, Created) Q1-NOV-1997 (Rel. 35, Last sequence update) Q1-NOV-1997 (Rel. 39, Last annotation update) CALDESMON (CDM).
                                                                                                                                                                                                                                            Score 7; DB 1;
Pred. No. 24;
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Biol. Chem. 266:16917-16924(1991).
                                                                                                                                                                                                                  5.1%; Scur.
100.0%; Pred
0; M
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                                                                                                                                                                                                                                                                                                                         Conservative
InterPro; IPR001939; -. Pfam; PF00004; AAA; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Homo sapiens (Human).
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Best Local Similarity
7; Conservē
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186 AAMATTA 192
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                                                                                                   NP_BIND
SEQUENCE
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DOMAIN: THE N-TERMINAL PART SEEMS TO BE A MYOSIN/CALMODULIN-BINDING DOMAIN, THESE TWO DOMAINS ARE SEPARATED BY A CENTRAL BINDING DOMAIN. THESE TWO DOMAINS ARE SEPARATED BY A CENTRAL HELICAL REGION IN THE SMOOTH-MUSCLE FORM.

PTM: IN NON-MUSCLE CELLS, PHOSPHORYLATION BY CDC2 DURING MITOSIS CALDESMON TO DISSOCIATE FROM MICROFILAMENTS.

CALGES CALDESMON TO DISSOCIATE FROM MICROFILAMENTS.

CALMODULIN AS WELL AS ITS INHIBITION OF ACTOMYOSIN ATPASE ACTIVITY. PHOSPHORYLATION ALSO OCCURS IN BOTH OUT STREAM AND DIVIDING SMOOTH MUSCLE CELLS WITH SIMILAR FFFECTS ON THE INTERACTION WITH ACTIN AND CALMODULIN AND MICROFILAMENTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MDDFERRELRROKREEMRLEAER -> MLGGSGSHGRRSL
                                                                                                                                                                                                                                                                                                                                                                                                                                       3 X 14 AA TANDEM REPEATS OF E-E-E-K-R-A-A-E-E-R-Q-R-I-K.
                                                                                                                                                                                                                                                                                                                                                                                    Pfam; PF02029; Caldesmon; 1.
PRINTS; PR01076; CALDESMON.
Muscle protein; Actin-binding; Calmodulin-binding; Phosphorylation;
                                                                                                                                                REORGANIZATION (BY SIMILARITY).
SIMILARITY: TO A TROPOMYOSIN BINDING SITE DOMAIN OF TROPONIN T.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STRONG ACTIN-BINDING (BY SIMILARITY).
CALMODULIN-BINDING (BY SIMILARITY).
WEAK ACTIN-BINDING (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AALSQ (IN ISOFORM HELA L-CAD I AND ISOFORM HELA L-CAD II).
MISSING (IN ISOFORM HELA L-CAD I AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MYOSIN AND CALMODULIN-BINDING (BY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SIMILAKITI).
TROPOMYOSIN-BINDING (POTENTIAL).
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DOMAIN 319 375
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             93250 MW;
                                                                                                                                                                                                                                                                                         EMBL; M64110; AAA35636.1; -. EMBL; M83216; AAA58420.1; -.
                                                                                                                                                                                                                                                                                                                   EMBL; M83216; AAA58419.1; -. EMBL; D90452; BAA14418.1; -. EMBL; D90453; BAA14419.1; -. MIM; 114213; -.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
MEDLINE=90243258; PubMed=1970801;
Levanon D., Hsieh C.L., Francke U., Dawson P.A., Ridgway N.D.,
Brown M.S., Goldstein J.L.;
"cDNA cloning of human oxysterol-binding protein and localization of
the gene to human chromosome 11 and mouse chromosome 19.";
Genomics 7:65-74(1990).

-I. FUNCTION: MAY PLAY A ROLE IN THE REGULATION OF STEROL METABOLISM.
BINDS A RANGE OF OXYSTEROLS.
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Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
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01-AUG-1991 (Rel. 19, Last sequence update)
01-OCT-2000 (Rel. 40, Last annotation update)
OXXSTEROL-BINDING PROTEIN.
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-:- SUBCELLULAR LOCATION: CYTOPLEANIC.
-:- SIMILARITY: BELONGS TO THE OSBP FAMILY.
-:- SIMILARITY: CONTAINS 1 PH DOMAIN.
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Pred. No. 30;
0; Mismatches
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PROSITE; PS50003; PH_DOMAIN; 1.
FIGHAL PROMAIN 1.
     Score 7; DE
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100.0%; Pr.
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Pfam; PF00169; PH; 1.
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                                                                            Conservative
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HSSP; P03316; IKXB.
MIM; 167040; INTERPROTE I
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Query Match
Best Local Similarity
7; Conserv?
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Best Local Similarity
Matches 7; Conserv
                                                                                                                                                             477 AAFTVSS 483
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                                                                                                                               71 VSSKRNL 77
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P22059;
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                               SOURCE STREET ST
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                                                                                                                                                                                                                                                                      Dawson P.A., Ridgway N.D., Slaughter C.A., Brown M.S.,
Goldstein J.L.;
"cDNA cloning and expression of oxysterol-binding protein, an
oligomer with a potential leucine zipper.";
J. Biol. Chem. 264:16798-15803(1989).
-I- FUNCTION: MAY PLAY A ROLE IN THE REGULATION OF STEROL METABOLISM.
BINDS A RANGE OF OXYSTEROLS.
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                                                                                                                     Oryctolagus cuniculus (Rabbit).
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Lagomorpha, Leporidae, Oryctolagus.
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Escherichia.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0; Indels
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ol-AUG-1990 (Rel. 15, Created)
01-AUG-1990 (Rel. 15, Last sequence update)
01-NOV-1995 (Rel. 32, Last annotation update)
0SSPP.
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Pred. No. 30;
0; Mismatches
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-1- SUBCELLULAR LOCATION: CYTOPLASMIC.
-1- SIMILARITY: BELONGS TO THE OSBP FAMILY.
-1- SIMILARITY: CONTAINS 1 PH DOMAIN.
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Pfam; PF0169; PH; 1.
PR0SITE; PS01013; OSBP; 1.
MOD_RES 1.
BLOCKED.
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100.0%; Pre
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                                                                                                                                                                                                                                                        MEDLINE=89380310; PubMed=2777807
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Best Local Similarity الاست
اجم 7; Conservative
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InterPro; IPR001849; -.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Oshima T., Alba H., Baba T., Fujita K., Hayashi K., Honjo A., Ikemoto K., Inada T., Itoh T., Kajihara M., Kanai K., Kashimoto K., Kimura S., Kitagawa M., Makino K., Masuda S., Miki T., Mizobuchi K., Makmura Y., Mashimoto H., Nishio Y., Salto N., Sampel G., Seki Y., Tagami H., Takemoto K., Wada C., Yamamoto Y., Yano M., Horluchi T.;

"A 718-kb DNA sequence of the Escherichia coli K-12 genome corresponding to the 12.7-8.0 min region on the linkage map.";

DNA Res. 3:137-155(1996).

"FUNCTION: REQUIRED FOR SEPTUM FORMATION. MAY BE INVOLVED IN PEPTIDOGLYCAN SYNTHESIS OR MODIFICATION.

"FUNCTION: LOCATION: INTEGRAL MEMBRANE PROTEIN (POTENTIAL).

"SUBLICIAR! BELONGS TO THE FTSK/SPOILIE FAMILY.
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G->A: IN TOE44, LOSS OF FUNCTION UNDER EXTREME CONDITIONS.
WA -> CV (IN REF. 1).
QP -> HA (IN REF. 1).
                                                                                                                       SEQUENCE FROM N.A.
STRAIN=K12 / MG1655;
MEDLINE=7426617; PubMed=9278503;
Blattner F.R., Plunkett G. III, Bloch C.A., Perna N.T., Burland V. Riley M., Collado-Vides J., Glasner J.D., Rode C.K., Mayhew G.F., Gregor J., Davis N.W., Kirkpatrick H.A., Goeden M.A., Rose D.J.,
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                                                                                                                                                                                                                                                                                                                                                     "The complete genome sequence of Escherichia coli K-12."; Science 277:1453-1474(1997).
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A -> R (IN REF. 1).
W; ED24BFB464481CFC CRC64;
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Begg K.J., Dewar S.J., Donachie W.D.;
"A new Escherichia coli cell division gene, ftsK.";
J. Bacteriol. 177:6211-6222(1995).
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0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATP-binding; Transmembrane.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           POTENTIAL.
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POTENTIAL.
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InterPro; IPR002543; -.
Pfam; PF01580; FtsK_SpoIIIE; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EMBL; Z49932; CAA90178.1; -.
EMBL; AE000191; AAC73976.1; -.
EMBL; D90726; BAA35615.1; -.
EMBL; D90727; BAA35622.1; -.
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1103
1193
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Matches 7; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
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|AFTVSSK 1183
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Fatty acid biosynthesis; Multifunctional enzyme; Oxidoreductase;
KKW
KFT FFT FFT SO
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1. J. Biol. Chem. 269:14103-14110(1994)

1. J. Biol. Chem. 269:14103-14110(1994)

1. J. Biol. Chem. 269:14103-14110(1994)

1. LONG-CHAIN FATTY ACIDS FYNTHETASE CATALYZES THE FORMATION OF THE ALPHA SUBUNIT CONTAINS DOMAINS FOR: ACYL CARRIER PROTEIN, 30-XXXXXI-ACXT-CARRIER PROTEIN, STORMANDERS. AND 3-XXXXXI-ACXT-CARRIER PROTEIN, STORMERS. TO THE ENZYME COMPLEX.

1. CARRIER-PROTEIN SYNTHASE. TO THE ENZYME COMPLEX.

1. CATALYTIC ACTIVITY: ACETYL-COA + N MALONYL-CAA + 2N NADPH = LONG-CHAIN FATTY ACID + (N+1) COA + 2N NADP(+).

2. CATALYTIC ACTIVITY: ACETYL-CARRIER PROTEIN] + MALONYL-CACL + (ACYL-CARRIER PROTEIN)] + NADPH.

2. CATALYTIC ACTIVITY: (3R)-3-HYDROXYACYL-(ACYL-CARRIER PROTEIN)] + NADPH.

3. OXOACYL-(ACYL-CARRIER PROTEIN)] + NADPH.

4. CATALYTIC ACTIVITY: (3R)-3-HYDROXYACYL-(ACYL-CARRIER PROTEIN)] + NADPH.

5. SUBUNIT: FATTY ACID SYNTHETASE ARE (ALPHA(6)BETA(6)] HEXAMERS OF TWO MULTIFUNCTIONAL SUBUNITS (ALPHA 6 BETA).

5. SIMILARITY: TO THE FATTY ACID SYNTHETASE, SUBUNIT ALPHA FROM OTHER FUNGI.
                      SECUENCE FROM N.A.
MEDLINE=85334912; bubmed=8769419;
Saitoh S., Takahashi K., Nabeshima K., Yamashita Y., Nakaseko Y.,
Hirata A., Yanagida M.;
Hirata A., Xanagida M.;
Aberrant mitosis in fission yeast mutants defective in fatty acid
synthetase and acetyl CoA carboxylase.";
Cell Biol. 134:949-961(1996).
                                                                                                                                                                                                                                                                                                                                                    STRAIN=972;
Skelton J., Churcher C.M., Barrell B.G., Rajandream M.A., Wood V.;
Submitted (AUG-1997) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE OF 1-20.
MEDLINE-94245730; PubMed-8188691;
Kaeslin E., Heyer W.-D.;
"Schlzosaccharomyces pombe fatty acid synthase mediates DNA strand
                                                                                                                                                                                                                                                                                                                                                                                                                               Koken M.H.M., de Rooij J.;
Submitted (FEB-1997) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                            Eukaryota; Fungi; Ascomycota; Schizosaccharomycetes;
Schizosaccharomycetales; Schizosaccharomycetaceae;
          1842 AA.
                                                                                                                               Schizosaccharomyces pombe (Fission yeast).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EMBL; D83412; BAA11913.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EMBL; 298762; CAB11481.1; -. EMBL; U82216; AAB39943.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE OF 1-215 FROM N.A.
          STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  InterPro; IPR000255; -. InterPro; IPR000794; -. InterPro; IPR002582; -. Pfam; PF01648; ACPS; 1.
                                                                                                                                                                        Schizosaccharomyces
                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.
                                                                                                                                                                                       NCBI_TaxID=4896
         FAS2_SCHPO
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "Sequence analysis of the Bacillus subtilis chromosome region between
the serA and Kdg loci cloned in a yeast artificial chromosome.";
Microbiology 143:2005-2016(1996).
-i- SUBCELLULAR LOCATION: INTEGRAL MEMBRANE PROTEIN (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
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                                                                                  PHOSPHOPANTETHEINE (BY SIMILARITY).
BETA-KETOACYL SYNTHASE (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sorokin A.V., Azevedo V., Zumstein E., Galleron N., Ehrlich S.D.,
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01-0CT-1996 (Rel. 34, Last sequence update)
15-DEC-1998 (Rel. 37, Last annotation update)
HYPOTHETICAL 7.5 KDA PROTEIN IN GPSA-SPOIVA INTERGENIC REGION.
                                                                                                                                                                                                                         Length 1842;
                                                                                                                                                                                                                                                              0; Indels
                                                                                                                     S -> A (IN REF. 3).
R -> K (IN REF. 2).
MW; 9FFB63E4FA285FID CRC64;
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                    ACYL CARRIER.
BETA-KETOACYL REDUCTASE.
BETA-KETOACYL SYNTHASE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0A4E3CB4B4E07D14 CRC64;
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Bacillus/Staphylococcus group; Bacillus.
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0
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                                                                                                                                                                                                           5.1%; Scot.
100.0%; Pred. No. cot.
... 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                             67 AA.
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Transferase; NADP; Phosphopantetheine
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
STRAIN-168 / MARBURG;
MEDLINE-96349105; PubMed-8760912;
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                                                                                                                                                              202196
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                                                                                                                                                                                                                                                              7; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                             STANDARD;
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                                                                                                                                           422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Hypothetical protein;
                                                                                                                                         422 4:
1842 AA;
                                                                                                                                                                                                                     Query Match
Best Local Similarity
Matches 7; Conserv
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                                                                                                                                                                                                                                                                                                                          304 SPTAEGG 310
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                                                                                                                                                                                                                                                                                                   23 SPTAEGG 29
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18 MFLAVA
                                                                                                                                                                                                                                                                                                                                                                                                                                             YPHE_BACSU
                                                           DOMAIN
BINDING
ACT_SITE
CONFLICT
                                                                                                                                           CONFLICT
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                        DOMAIN
                                           DOMAIN
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YPHE_BACSU
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 29
Y055_NPVAC
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PROSITE; PS00012; PHOSPHOPANTETHEINE; 1. PROSITE; PS00606; B\_KETOACXL\_SYNTHASE; 1.

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ;
0
                                                      01-NOV-1995 (Rel. 32, Created)
01-NOV-1995 (Rel. 32, Last sequence update)
01-NOV-1997 (Rel. 35, Last annotation update)
14POTHETICAL 8.2 KDA PROTEIN IN LEF8-FP INTERGENIC REGION.
Autographa californica nuclear polyhedrosis virus (ACMNPV).
Viruses; dSDNA viruses, no RNA stage; Baculoviridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 73;
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Telford E.A.R., Watson M.S., McBride K., Davison A.J.;
"The DNA sequence of equine herpesvirus-1.";
Virology 189:304-316(1992).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Equine herpesvirus type 1 (strain Ab4p) (EHV-1).
Viruses; dSDNA viruses, no RNA stage; Herpesviridae;
Alphaherpesvirinae; Varicellovirus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8190 MW; 0667F3D51E6386E8 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              polyhedrosis virus.";
Virology 202:586-605(1994).
-1- SIMILARITY: TO CORRESPONDING ORF IN OPMNPV.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-DEC-1992 (Rel. 24, Created)
01-DEC-1992 (Rel. 24, Last sequence update)
01-DEC-1992 (Rel. 24, Last annotation update)
HYPOTHETICAL GENE 10 PROTEIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         4.3%; Score 6; DB 1;
100.0%; Pred. No. 41;
tive 0; Mismatches
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73 AA.
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   PRT;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EMBL; L22858; AAA66685.1; -. Hypothetical protein. SEQUENCE 73 AA; 8190 MW;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STANDARD;
STANDARD;
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Best Local Similarity
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Hypothetical protein
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                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                         NCBI_TaxID=46015;
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41 YKTFEA 46
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VG10_HSVEB
P28980;
Y055_NPVAC
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VG10_HSVEB
AD VG10 H
AC P28980,
DT 01-DEC
DT 01-DEC
DE HYPOTHI
DE H
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                                 Length 100;
                                                      0; Indels
10802 MW; B53A8AC6F24BB4C7 CRC64;
                                Score 6; DB 1;
Pred. No. 54;
); Mismatches
                                                      0;
                                 4.3%; 8
                                 Query Match 4.3
Best Local Similarity 100.
Matches 6; Conservative
100 AA;
                                                                            16 WVLGLA 21
  SEQUENCE
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. |||||| 17 WLGLA 22

Search completed: November 19, 2001, 13:12:48 Job time: 183 sec

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E: Woodcock Washburn Kurtz Mackiewicz & No. 5721119ris One Liberty Place - 46th Floor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPRAING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/433,854
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Singh, Mohan Bir
APPLICANT: Singh, Mohan Bir
APPLICANT: Smith, Penelope
APPLICANT: Avjioglu, Asil
APPLICANT: Theerakulpisut, Piyada
APPLICANT: Hough, Terryn
APPLICANT: Suphioglu, Cenk
APPLICANT: Suphioglu, Cenk
APPLICANT: Ong, Eng Kok
TITLE OF INVENTION: Ryegrass Pollen Allergen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NAME: Hohenschutz, Liza D.
REGISTRATION NUMBER: 33,712
REFERENCE/DOCKET NUMBER: IMPH-0024
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FILING DATE:
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
FILING DATE: 14-AUG-1992
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 4, Application US/08433854 Patent No. 5721119 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELEPHONE: (215) 568-3100
TELEFAX: (215) 568-3439
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
LENGTH: 339 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER READABLE FORM:
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TYPE: am
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COUNTRY:
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                                                                                                                                                   ; Search time 12.51 Seconds
(without alignments)
248.238 Million cell updates/sec
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                sequence 1, Appearance 1, Appearance 11, Appearance 11, Appearance 11, Appearance 11, Appearance 11, Appearance 28, Appearance 28, Appearance 28, Appearance 28, Appearance 1, Appearance 1, Appearance 1, Appearance 1, Appearance 2, Appearanc
                                                                                                                                                                                                                                                                                                                  1 MAAHKFMVAMFLAVAVVLGL.....SEALHIIAGTPEVHAVKPGA 138
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Sequence 4,
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(cgn2_6/ptodata/2/iaa/5A_COMB.pep:*

(cgn2_6/ptodata/2/iaa/5B_COMB.pep:*

(cgn2_6/ptodata/2/iaa/6A_COMB.pep:*

(cgn2_6/ptodata/2/iaa/6B_COMB.pep:*

(cgn2_6/ptodata/2/iaa/PCTUS_COMB.pep:*

(cgn2_6/ptodata/2/iaa/PCTUS_COMB.pep:*

(cgn2_6/ptodata/2/iaa/PCTUS_COMB.pep:*
GenCore version 4.5
Copyright (c) 1993 - 2000 Compugen Ltd
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US-08-433-885-4
US-08-433-885-4
US-08-433-854-11
US-08-174-745A-11
US-08-174-745A-11
US-08-433-885-11
US-08-433-885-11
US-08-433-854-28
US-08-433-854-28
US-08-433-854-28
US-08-433-855-28
US-08-433-8685-28
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US-08-433-8685-28
US-08-433-8685-28
US-08-433-8685-28
US-08-433-8685-28
US-08-440-861-15
US-08-440-861-15
US-08-285-440-1
US-08-285-440-2
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                                                                                                                                                                                                                                                                                                                                                                                                                                                       212252 seqs, 22503292 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SUMMARIES
                                                                                                                                                         November 19, 2001, 13:08:54
                                                                                                      OM protein - protein search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Post-processing: Listing first 50 summaries
                                                                                                                                                                                                                                                                                                                                                                                                     Gapop 60.0 , Gapext 60.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Minimum DB seq léngth: 0
Maximum DB seq length: 200000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query
Match Length
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Database :
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                                                                                                                                                                                                                                                                                                                             Seguence:
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US-08-174-745A-2

US-08-135-947-2

US-08-433-908B-2

US-08-413-974-2

US-08-413-974-2

US-08-433-28B-2

US-08-133-28B-2

US-08-133-28B-2

US-08-285-440-4

US-08-285-440-4

US-08-285-440-6

US-08-286-458-459-10

US-08-08-144-445-3

US-09-184-445-3
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### ALIGNMENTS

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19103
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-08-195-947-4
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AUDKESSEE: Woodcock Washburn Kurtz Mackiewicz & No. 5736362ris
STREET: One Liberty Place - 46th Floor
CITY: Philadelphia
STATE: PA
                                                                                                                                                .
0
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100.0%; Pred. No. 0.00028;
ive 0; Mismatches 0; Indels
                                                                                                    8.7%; Score 12; DB 1; Length 339; 100.0%; Pred. No. 0.00028; tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOFTWARE: Patentin Release #1.0, Version #1.25 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Hough, Terryn
APPLICANT: Suphloglu, Cenk
APPLICANT: Ong, Eng Kok
TITLE OF INVENTION: Ryegrass Pollen Allergen
CORRESPONDENCE: 53
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NAME: Hohenschutz, Liza D.
REGISTRATION NUMBER: 33,712
REFERENCE/DOCKET NUMBER: IMPH-0024
TELECOMMUNICATION INFORMATION:
TELEPHONE: (215) 568-3100
TELEPHONE: (215) 568-3439
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICATION NUMBER: US/08/174,745A
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/930,060
FILING DATE: 14-AUG-1992
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                         Sequence 4, Application US/08174745A
Patent No. 5736362
GENERAL INFORMATION:
APPLICANT: Singh, Mohan Bir
APPLICANT: Rnox, Robert B.
APPLICANT: Smith, Penelope
APPLICANT: Applicant: Applicant: Theerakulpisut, Piyada
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   339 amino acids
                                                                                                                         Best_Local Similarity 100.
Matches 12; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Best Local Similarity 100.
Matches 12; Conservative
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-433-854-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ; MOLECULE TYPE: protein US-08-174-745A-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ZIP: 19103
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                   29 GKATTEEQKLIE 40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         29 GKATTEEQKLIE 40
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US-08-174-745A-4
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                                                                                                      Query Match
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Gaps
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STREET: One Liberty Place - 46th Floor
CITY: Philadelphia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ö
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/195,947
FILING DATE: 14-FEB-1994
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/930,060
FILING DATE: 14-AUG-1992
ATTORNEY/AGENT INFORMATION:
us-08-195-947-4
; Sequence 4, Application US/08195947
; Patent No. 5840316
; GENERAL INFORMATION:
APPLICANT: Singh, Mohan Bir
APPLICANT: Singh, Mohan Bir
APPLICANT: Smith, Penelope
APPLICANT: Therexalpisut, Piyada
APPLICANT: Therexalpisut, Piyada
APPLICANT: Nuphioglu, Cenk
APPLICANT: Ong, Eng Kok
TITLE OF INVENTION: Ryegrass Pollen Allergen
NUMBER OF SEQUENCES: 53
CORRESPONDENCE ADDRESS:
ADDRESSE: Woodcort
STREFF
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Patent No. 5869333
CENERAL INFORMATION:
APPLICANT: Singh, Mohan Bir
APPLICANT: Singh, Probert B.
APPLICANT: Smith, Penelope
APPLICANT: Avijoglu, Asil
APPLICANT: Theerakulpisut, Piyada
APPLICANT: Hough, Terryn
APPLICANT: Suphioglu, Cenk
APPLICANT: Suphioglu, Cenk
APPLICANT: Suphioglu, Cenk
APPLICANT: Ong, Eng Kok
TITLE OF INVENTION: Ryegrass Pollen Allergen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 12; DB 2; LA
Pred. No. 0.00028;
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Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8.7%; Scc.
100.0%; Pred
0; N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NAME: Hohenschutz, Liza D. REGISTRATION NUMBER: 33,712 REFERENCE/DOCKET NUMBER: IM TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TELEPHONE: (215) 568-3100
TELEFAX: (215) 568-3439
INFORMATION FOR SEQ ID NO: 4:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     339 amino acids
amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match 8.7
Best Local Similarity 100.
Matches 12; Conservative
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ADDRESSEE: Woodcock Washburn Kurtz Mackiewicz & No. 6277383ris
STREET: One Liberty Place - 46th Floor
CITY: Philadelphia
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                                                                                                                                                                                                                                                                                                                                                           8.7%; Score 12; DB 2; Length 339;
00.0%; Pred. No. 0.00028;
ve 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ZIP: 19103

ZIP: 19103

COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: 1BM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFWARE: PatentIn Release #1.0, Version #1.25

CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/410,614
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: Avjioglu, Asil APPLICANT: Theerakulpisut, Piyada APPLICANT: Theerakulpisut, Piyada APPLICANT: Hough, Terryn APPLICANT: Suphioglu, Cenk APPLICANT: Ong, Eng Kok TITLE OF INVENTION: Ryegrass Pollen Allergen CORRESPONDENCE ADDRESS:
ATTORNEY/AGENT INFORMATION:
NAME: Mandragouras, Amy E.
REGISTRATION NUMBER: 36,207
REFERENCE/POCKET NUMBER: IMI-039C2D4
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617) 727-7400
TELEPHONE: (617) 742-4214
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
LENGTH: 339 amino acids
TYPE: amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
FILING DATE: 14-FEB-1994
APPLICATION NUMBER: US 07/930,060
FILING DATE: 14-AUG-1992
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NAME: Hohenschutz, Liza D.
REGISTRATION NUMBER: 33,712
REFERENCE/DOCKET NUMBER: IMPH-0024
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-08-410-614-4; Sequence 4, Application US/08410614; Patent No. 6277383
                                                                                                                                                                                                                                                                                                                                                           Query Match 8.7%; Soc
Best Local Similarity 100.0%; P.
Matches 12; Conservative 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Singh, Mohan Bir
APPLICANT: Knox, Robert B.
APPLICANT: Smith, Penelope
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TELEPHONE: (215) 568-3100
TELEFAX: (215) 568-3439
INFORMATION FOR SEQ ID NO: 4:
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LENGTH: 339 amino acids
                                                                                                                                                                                                                                                                   ; MOLECULE TYPE: protein US-08-433-908B-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                    29 GKATTEEQKLIE 40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           62 GKATTEEOKLIE 73
                                                                                                                                                                                                                                                     linear
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TOPOLOGY: linear
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              USA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ΡA
                                                                                                                                                                                                                                                   TOPOLOGY:
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100.0%; Pred. No. 0.00028;
Live 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                               SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/433,885
FILING DATE: 02-MAY-1995
CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATUR SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTIN Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
FILING DATE: US/08/43,908B
FILING DATE: 02-MAY-1995
CLASSIFICATION: 436
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Ong, Eng Kok
TITLE OF INVENTION: Ryegrass Pollen Allergen
MUMBER OF SEQUENCES: 53
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                        ATTORNEY/AGENT INFORMATION:
NAME: MANDERERS, ANY E.
REGISTRATION NUMBER: 36,207
REFERENCE/DOCKET NUMBER: IMI-039C2D2
TELECOMMUNICATION INFORMATION:
TELEBHONE: (617) 227-7400
TELEFAX: (617) 227-5941
INFORMATION FOR SEQ ID NO: 4:
             CORRESPONDENCE ADDRESS:
ADDRESSEE: Lahive & Cockfield
STREET: 60 State Street, Suite 510
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ADDRESSEE: Lahive & Cockfield, LLP STREET: 28 State Street
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Singh, Mohan Bir
APPLICANT: Knox, Robert B.
APPLICANT: Smith, Penelope
APPLICANT: Avjioglu, Asil
APPLICANT: Theerakulpisut, Piyada
APPLICANT: Hough, Terryn
APPLICANT: Suphloglu, Cenk
                                                                                                                                                                                                 MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ; Sequence 4, Application US/08433908B
; Patent No. 5965455
; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     : 339 amino acids
amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity 100.
Matches 12; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-433-885-4
                                                                                                                                                                          COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             29 GKATTEEQKLIE 40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      62 GKATTEEOKLIE 73
                                             ADDAL
STREET: 00
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                                                                                                                                COUNTRY: USA
ZIP: 02109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CITY: Boston
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ZIP: 02109
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US-08-433-908B-4
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STATE:
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FILING DATE:
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ZIP: 19103
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US-08-174-745A-11
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US-08-195-947-11
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ADDRESSEE: Woodcock Washburn Kurtz Mackiewicz & No. 5721119ris
STREET: One Liberty Place - 46th Floor
CITY: Philadelphia
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                                                                        8.7%; Score 12; DB 4; Length 339;
100.0%; Pred. No. 0.00028;
tive 0; Mismatches 0; Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER READABLE FORM:
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/NS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/433,854
                                                                                                                                                                                                                                                                                                                             GENERAL INFORMATION:
APPLICANT: Singh, Mohan Bir
APPLICANT: Singh, Mohan Bir
APPLICANT: Mith, Penelope
APPLICANT: Avjioglu, Asil
APPLICANT: Theerakulpisut, Piyada
APPLICANT: Hough, Terryn
APPLICANT: Hough, Terryn
APPLICANT: Ong, Eng Kok
ITILE OF INVENTION: Ryegrass Pollen Allergen
NUMBER OF SEGUENCES: 53
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NAME: Hohenschutz, Liza D.
REGISTRATION NUMBER: 33,712
REFERENCE/DOCKET NUMBER: IMPH-0024
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/930,060
FILING DATE: 14-AUG-1992
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                             Sequence 11, Application US/08433854 Patent No. 5721119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TELEPHONE: (215) 568-3100
TELEFAX: (215) 568-3439
INFORMATION FOR SEQ ID NO: 11:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          : 21 amino acids amino acid
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Matches 11; Conservative
                                                                          Query Match 8.7
Best Local Similarity 100.
Matches 12; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TOPOLOGY: linear
MOLECULE TYPE: peptide
US-08-433-854-11
  protein
                                                                                                                                                         29 GKATTEEQKLIE 40
                                                                                                                                                                                28 GGKATTEEQKL 38
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MOLECULE TYPE:
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                                                                                                                                                                                                                                                      RESULT 7
US-08-433-854-11
      ; MOLECULE TO
US-08-410-614-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
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RESULT

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CORRESPONDENCE ADDRESS:
ADDRESSEE: Woodcock Washburn Kurtz Mackiewicz & No. 5736362ris
STREET: One Liberty Place - 46th Floor
CITY: Philadelphia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ;
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CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/174,745A
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100.0%; Pred. No. 0.00022;
......hes 0;
                                          APPLICANT: Singh, Mohan Bir
APPLICANT: Singh, Mohan Bir
APPLICANT: Smith, Penelope
APPLICANT: Aviloglu, Asil
APPLICANT: Theerakulpisut, Piyada
APPLICANT: Hough, Terryn
APPLICANT: Suphioglu, Cenk
APPLICANT: Ong, Eng Kok
TITLE OF INVENTION: ENgerass Pollen Allergen
NUMBER OF SEQUENCES: 53
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ryegrass Pollen Allergen 53
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PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/930,060
FILING DATE: 14-AUG-1992
ATTORNEY/AGENT INFORMATION:
NAME: Hohenschutz, Liza D.
REGISTATION NUMBER: 33,712
REFERENCE/DOCKET NUMBER: IMPH-0024
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 11, Application US/08195947
Patent No. 5840316
GENERAL INFORMATION:
APPLICANT: Singh, Mohan Bir
APPLICANT: Singh, Penelope
APPLICANT: Smith, Penelope
APPLICANT: Theerakulpisut, Psiyada
APPLICANT: Theerakulpisut, Piyada
APPLICANT: Hough, Terryn
APPLICANT: Hough, Terryn
APPLICANT: Suphioglu, Cenk
APPLICANT: Ong, Eng Kok
APPLICANT: Ong, Eng Kok
TITLE OF INVENTION: Ryegrass Pollen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PC-DOS/MS-DOS
Sequence 11, Application US/08174745A
Patent No. 5736362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8.00
100.08; Pre
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TELEPHONE: (215) 568-3100
TELEFAX: (215) 568-3439
INFORMATION FOR SEQ ID NO: 11:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     21 amino acids
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
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Matches 11; Conserv
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ATTORNEY/AGENT INFORMATION:
NAME: Mandragouras, Amy E.
REGISTRATION NUMBER: 36,207
REFERENCE/DOCKET NUMBER: IM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TELECOMMUNICATION INFORMATION:
TELEPHONE: (617) 227-7400
TELEFAX: (617) 742-4214
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TELEFAX: (617) 742-4214
INFORMATION FOR SEQ ID NO: 11:
 02-MAY-1995
                                       ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Floppy disk
                                                                                                                                                                                                          LENGTH: 21 amino acids TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         21 amino acids
                                                                                                                                                                                                                                                                                                                                            Query Match 8.0
Best Local Similarity 100.
Matches 11; Conservative
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                                                                                                                                                                                                                                                           MOLECULE TYPE: peptide US-08-433-885-11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ; MOLECULE TYPE: peptide US-08-433-908B-11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                linear
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FILING DATE: 0 CLASSIFICATION:
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STREET: 20 -
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USA
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                                                                                                                                                                                                                                              TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-08-433-908B-11
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     SEE: Woodcock Washburn Kurtz Mackiewicz & No. 5840316ris
One Liberty Place - 46th Floor
Philadelphia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8.0%; Score 11; DB 2; Length 21; 100.0%; Pred. No. 0.00022; ive 0; Mismatches 0; Indels
                                                                                                                                                                                   OPERATING SISTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/195,947
FILING DATE: 14-FEB-1994
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/930,060
FILING DATE: 14-AUG-1992
ATTORNEX/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC COMPATIBLE
COMPATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTIN Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/433,885
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 11, Application US/08433885
Patent No. 5869333
GENERAL INFORMATION:
APPLICANT: Singh Mohan Bir
APPLICANT: Rnox, Robert B.
APPLICANT: Anioqu, Asil
APPLICANT: Theerakulpisut, Piyada
APPLICANT: Hough, Terryn
APPLICANT: Hough, Terryn
APPLICANT: Ong, Bng Kok
TITLE OF INVENTION: Ryegrass Pollen Allergen
NUMBER OF SEQUENCES: 53
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                           NAME: Hohenschutz, Liza D.
REGISTRATION NUMBER: 33,712
REFERENCE/DOCKET NUMBER: IMPH-0024
TELECOMMUNICATION INFORMATION:
TELEPHONE: (215) 568-3100
INFORMATION FOR SEQ ID NO: 11:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     E: Lahive & Cockfield
60 State Street, Suite 510
                                                                                                                                 COMPUTER: Floppy disk COMPUTER: IBM PC COMPATIBLE OPERATING SYSTEM: PC-noc vor SOFTWARP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       21 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ; MOLECULE TYPE: peptide US-08-195-947-11
                                                                                        COUNTRY: USA
ZIP: 19103
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ZIP: 02109
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                28 GGKATTEEQKL 38
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity
Matches 11; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     11 GGKATTEEOKL 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COUNTRY: USA
ZIP: 02109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CITY: Boston
                                                   CITY: Phil
STATE: PA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-08-433-885-11
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 11; DB 2; L
Pred. No. 0.00022;
0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Singh, Mohan Bir
APPLICANT: Knox, Robert B.
APPLICANT: Smith, Penelope
APPLICANT: Avjioglu, Asil
APPLICANT: Theerakulpisut, Piyada
APPLICANT: Hough, Terryn
APPLICANT: Suphioglu, Cenk
APPLICANT: Suphioglu, Cenk
APPLICANT: Suphioglu, Cenk
APPLICANT: Suphioglu, Cenk
APPLICANT: Suphioglu, Senk
APPLICANT: Suphioglu, Cenk
NAME: Mandragouras, Amy E.
REGISTRATION NUMBER: 36,207
REFERENCE/DOCKET NUMBER: IMI-039C2D2
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617) 227-7400
TELEPHONE: (617) 227-5941
INFORMATION FOR SEQ ID NO: 11:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER: US/08/433,908B FILING DATE: 02-MAY-1995 CLASSIFICATION: 436
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ADDRESSEE: Lahive & Cockfield, LLP STREET: 28 State Street
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 11, Application US/08433908B; Patent No. 5965455; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS
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100.0%; Pre
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Sequence 28, Application US/08433854 Patent No. 5721119
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INFORMATION FOR SEQ ID NO: 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE CHARACTERISTICS:
LENGTH: 13 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Best Local Similarity 100.
Matches 7; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TOPOLOGY: linear
MOLECULE TYPE: peptide
US-08-433-854-28
                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            amino acid
                                         GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 130 EVHAVKP 136
                                                                                                                                                                                                                                                                                                                                                                                  USA
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ZIP: 19103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 14
US-08-174-745A-28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
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                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ADDRESSEE: Woodcock Washburn Kurtz Mackiewicz & No. 6277383ris
STREET: One Liberty Place - 46th Floor
CITY: Philadelphia
STATE: PA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ô
                                                              ;
0
                 Query Match 8.0%; Score 11; DB 2; Length 21; Best Local Similarity 100.0%; Pred. No. 0.00022; Matches 11; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8.0%; Score 11; DB 4; Length 21;
100.0%; Pred. No. 0.00022;
Live 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTIN RELEASE #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/410,614
                                                                                                                                                                                                                                              Sequence 11, Application US/08410614
Patent No. 6277383
GENERAL INFORMATION:
APPLICANT: Singh, Mohan Bir
APPLICANT: Singh, Penelope
APPLICANT: Smith, Penelope
APPLICANT: Theerakulpisut, Piyada
APPLICANT: Theerakulpisut, Piyada
APPLICANT: Hough, Terryn
APPLICANT: Hough, Terryn
APPLICANT: Gng, Eng Kok
TITLE OF INVENTION: Ryegrass Pollen Allergen
NUMBER OF SEQUENCES: 53
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/195,947
FILING DATE: 14-FEB-1994
APPLICATION NUMBER: US 07/930,060
FILING DATE: 14-AUG-1992
ATTORNEY/AGENT INFORMATION:
NAME: Hohenschutz, 112a D.
REGISTRATION NUMBER: 33,712
REFERENCE/DOCKET NUMBER: IMPH-0024
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TELEPRAK: (215) 568-3100
TELEPRAK: (215) 568-3439
INFORMATION FOR SEQ ID NO: 11:
SEQUENCE CHARACTERISTICS:
LENGTH: 21 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Best Local Similarity 100.
Matches 11; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ; MOLECULE TYPE: peptide US-08-410-614-11
                                                                                                   28 GGKATTEEQKL 38
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CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ZIP: 19103
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US-08-433-854-28
                                                                                                                                                                                                         RESULT 12
US-08-410-614-11
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ANDKESSEE: Woodcock Washburn Kurtz Mackiewicz & No. 5721119ris
STREET: One Liberty Place - 46th Floor
CITY: Philadelphia
STATE: PA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER: TELPOPY disk
COMPUTER: IBM PC COMPATIBLE
COMPUTER: IBM PC COMPATIBLE
COMPATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/433,854
FILING DATE: US/08/433,854
FILING DATE: US/08/433,854
ATPOINTENT NUMBER: US 07/930,060
FILING DATE: 14-AUG-1992
ATPOINTENT NIFORMATION:
NAME: HORBINGALIZE LIZE D.
REGISTRATION NUMBER: 33,712
REGISTRATION NUMBER: 33,712
REGISTRATION NUMBER: IMPH-0024
TELECOMMULICATION INFORMATION:
TELECOMMULICATION INFORMATION:
TELECOMMULICATION INFORMATION:
TELECOMMULICATION INFORMATION:
TELECOMMULICATION INFORMATION:
APPLICANT: Singh, Mohan Bir
APPLICANT: Knox, Robert B.
APPLICANT: Smith, Penelope
APPLICANT: Theerakulpisut, Asil
APPLICANT: Hough, Terryn
APPLICANT: Hough, Terryn
APPLICANT: Suphioglu, Cenk
APPLICANT: Ong, Eng Kok
TITLE OF INVENTION: Ryegrass Pollen Allergen
NUMBER OF SEQUENCES: 53
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Hough, Terryn
APPLICANT: Suphioglu, Cenk
APPLICANT: Ong, Eng Kok
TILLE OF INVENTION: Ryegrass Pollen Allergen
NUMBER OF SEQUENCES: 53
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5.1%; Score 7; DB 1; 100.0%; Pred. No. 1.4;
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Patent No. 5736362
GENERAL INFORMATION:
APPLICANT: Singh, Mohan Bir
APPLICANT: Singh, Penelope
APPLICANT: Santh, Penelope
APPLICANT: Applicant: Applicant: Applicant: Applicant: Applicant: Applicant: Theerakulpisut, Piyada
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TYPE: amino acid
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USA
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SEE: Woodcock Washburn Kurtz Mackiewicz & No. 5736362ris
: One Liberty Place - 46th Floor
Philadelphia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ADDRESSEE: Woodcock Washburn Kurtz Mackiewicz & No. 5840316ris
STREET: One Liberty Place - 46th Floor
CITY: Philadelphia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 13;
                                                                                 ZIP: 19103

COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION NUMBER: US/08/174,745A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: Hough, Terryn
APPLICANT: Suphioglu, Cenk
APPLICANT: Ong, Eng Kok
TITLE OF INVENTION: Ryegrass Pollen Allergen
CORRESPONDENCE 53
CORRESPONDENCE MODGECS: ADDRESS:
ADDRESSE: Woodcock Washburn Kurtz Mackiew
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            5.1%; Score 7; DB 1; 100.0%; Pred. No. 1.4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mismatches
                                                                                                                                                                                                                                        CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/930,060
FILING DATE: 14-AuG-1992
ATTORNEY/AGENT INFORMATION:
NAME: Hohenschutz, Liza D.
RECISTRATION NUMBER: 33,712
REFERENCE/DOCKET NUMBER: IMPH-0024
TELEPHONE: (215) 566-3100
TELEPHONE: (215) 568-3439
INFORMATION FOR SEQ ID NO: 28:
SEQUENCE CHARACTERISTICS:
LENGTH: 13 anino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/195,947
FILING DATE: 14-FEB-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Smith, Penelope
Avjioglu, Asil
Theerakulpisut, Piyada
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 28, Application US/08195947
Patent No. 5840316
GENERAL INFORMATION:
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100.0%; Pre-
0;
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Knox, Robert B.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match 5.1
Best Local Similarity 100.
Matches 7; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TOPOLOGY: linear
; MOLECULE TYPE: peptide
US-08-174-745A-28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       amino acid
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ZIP: 19103
ADDRESSEE:
STREET: On
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US-08-195-947-28
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APPLICANT:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COUNTRY:
                                   CITY: 1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GENERAL MINORMATION:
APPLICANT: Singh, Mohan Bir
APPLICANT: Knox, Robert B.
APPLICANT: Smith, Penelope
APPLICANT: Theoretakulpisut, Piyada
APPLICANT: Theoretakulpisut, Piyada
APPLICANT: Hough, Terryn
APPLICANT: Suphioglu, Cenk
APPLICANT: Ong, Eng Kok
TITLE OF INVENTION: Ryegrass Pollen Allergen
NUMBER OF SEQUENCES: 53
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5.1%; Score 7; DB 2
100.0%; Pred. No. 1.4
tive 0; Mismatches
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 10 07/930,060
FILING DATE: 14-AUG-1992
ATTORNEY/AGENT INFORMATION:
NAME: HOHENSCHUEX, Liza D.
REGISTRATION NUMBER: 33,712
REFERRNCE/POCKET NUMBER: IMPH-0024
TELECOMMUNICATION INFORMATION:
TELEFRAX: (215) 568 3100
TELEFRAX: (215) 568 3139
INFORMATION FOR SEQ ID NO: 28:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ADDRESSEE: Lahive & Cockfield
STREET: 60 State Street, Suite 510
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ; Sequence 28, Application US/08433885
; Patent No. 5869333
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REFERENCE/DOCKET NUMBER: IM-
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617) 227-7400
TELEPHONE: (617) 227-5941
INFORMATION FOR SEQ ID NO: 28:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FILING DATE: 02-MAY-1995
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Mandragouras, Amy E.
REGISTRATION NUMBER: 36,207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                            SEQUENCE CHARACTERISTICS:
LENGTH: 13 amino acids
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match 5.1
Best Local Similarity 100.
Matches 7; Conservative
                                                                                                                                                                                                                                                                                                                                                                   ; TOPOLOGY: linear
; MOLECULE TYPE: peptide
US-08-195-947-28
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CORRESPONDENCE ADDRESS:
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MEDIUM TYPE: Floppy disk
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE CHARACTERISTICS:
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Best Local Similarity 100.
Matches 7; Conservative
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                                                      Length 13;
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/433,908B
FILING DATE: 02-MAY-1995
CLASSIFICATION: 436
                                                                                                                                                                                                                                           Sequence 28, Application US/08433908B
Patent No. 5965455
GENERAL INFORMATION:
APPLICANT: Slingh, Mohan Bir
APPLICANT: Snith, Penelope
APPLICANT: Smith, Penelope
APPLICANT: Theerakulpisut, Piyada
APPLICANT: Theerakulpisut, Piyada
APPLICANT: Theerakulpisut, Piyada
APPLICANT: Hough, Terryn
APPLICANT: Hough, Terryn
APPLICANT: Gng, Eng Kok
TITLE OF INVENTION: Ryegrass Pollen Allergen
NUMBER OF SEQUENCES: 53
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches
                                                                                        Mismatches
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NAME: Mandragouras, Amy E.
RECISTRATION NUMBER: 36,207
REFERENCE/DOCKET NUMBER: IMI-039C2D4
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617) 227-7400
TELEFAX: (617) 742-4214
INFORMATION FOR SEQ ID NO: 28:
SEQUENCE CHARACTERISTICS:
LENGTH: 13 amino acids
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Pred. No.
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28 State Street
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US-08-410-614-28
Sequence 28, Application US/08410614
Patent No. 6277383
GENERAL INFORMATION:
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Best Local Similarity 100.0%; P
Matches 7; Conservative 0;
                                  Ouery Match
Best Local Similarity 100.vv
T; Conservative
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MOLECULE TYPE: peptide
US-08-433-908B-28
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                                                                                                                         130 EVHAVKP 136
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      USA
                                                                                                                                               6 EVHAVKP 12
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US-08-433-885-28
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Gaps
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STREET: One Liberty Place - 46th Floor
CITY: Philadelphia
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APPLICANT: Kuo, Mei-Chang
APPLICANT: Luqman, Mohammad
ATILE OF INVENTION: T CELL EPITOPES OF RYEGRASS POLLEN
TITLE OF INVENTION: ALLERGEN
NUMBER OF SEQUENCES: 56
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/410,614
APPLICANT: Singh, Mohan Bir
APPLICANT: Knox, Robert B.
APPLICANT: Smith, Penelope
APPLICANT: Thecrakulpisut, Piyada
APPLICANT: Hough, Terryn
APPLICANT: Hough, Terryn
APPLICANT: Hough, Terryn
APPLICANT: Suphioglu, Cenk
APPLICANT: Ong, Eng Kok
TITLE OF INVENTION: Ryegrass Pollen Allergen
NUMBER OF SEQUENCES: 53
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mismatches
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CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/195,947
FILING DATE: 14 - FEB-1994
APPLICATION NUMBER: US 07/930,060
FILING DATE: 14 - AUG-1992
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ADDRESSEE: LAHIVE & COCKFIELD
STREET: 60 State Street, suite 510
CITY: Boston
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NAME: Hohenschutz, Liza D.
REGISTRATION NUMBER: 33,712
REPERENCE/DOCKET NUMBER: IMPH-0024
TELECOMMUNICATION INFORMATION:
TELEPHONE: (215) 568-3409
INFORMATION FOR SEQ ID NO: 28:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ; Sequence 15, Application US/08440861; Patent No. 5710126; GENERAL INFORMATION:
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Gaps
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STREET: 805 Fifteenth Street, N.W., #700
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Patent No. 5739008
GENERAL INFORMATION:
APPLICANT: Ken'ichiro HAYASHI et al.
TITLE OF INVENTION: POLYPEPTIDE
NUMBER OF SEQUENCES: 32
CORRESPONDENCE ADDRESS:
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100.0%; Pre
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PUBLICATION DATE:

RELEVANT RESIDUES IN SEQ ID NO:
US-08-285-440-1
                                                             LENGTH: 116 amino acids
                         INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match 5.1
Best Local Similarity 100.
Matches 7; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LOCATION:
IDENTIFICATION METHOD:
OTHER INFORMATION:
PUBLICATION INFORMATION:
                                                                                               single
                                                                                                                TOPOLOGY: linear MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER READABLE FORM:
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DEVELOPMENTAL STAGE:
HAPLOTYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                    CHROMOSOME/SEGMENT:
                                                                                 amino acid
                                                                                                              linear
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POSITION IN GENOME:
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DOCUMENT NUMBER:
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LIBRARY:
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ORIGINAL SOURCE:
                                                                                              STRANDEDNESS:
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CELL TYPE:
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                                                                                                                                                HYPOTHETICAL:
ANTI-SENSE:
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ORGANELLE:
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JOURNAL:
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FEATURE:
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ZIP: 02109
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCIT Text
CURREWT APPLICATION DATA:
APPLICATION NUMBER: US/08/440,861
FILING DATE: 1-MAY-1995
CLASSIFICATION DATA:
APPLICATION NUMBER: US 08/106,016
FILING DATE: 31-AUG-1993
ATTORNEY/AGENT INFORMATION:
NAME: Amy E. Mandragouras
REGISTRATION NUMBER: 1 PC-075 (IMI-040cp)
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION OCID S27-5941
INFORMATION FOR SEQ ID NO: 15:
SEQUENCE CHARACTERISTICS:
LENGTH: 20 amino acids
TYPE: Amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 1, Application US/08285440
Patent No. 553237
GENERAL INFORMATION:
TITLE OF INVENTION:
NUMBER OF SEQUENCES: 3
CORRESPONDENCE ADDRESS:
STREET: 805 Fifteenth Street, N.W., #700
CITY: Washington
STATE: D.C.
COUNTRY: U.S.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ZIP: 20005
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette, 5.25 inch, 500 kb
COMPUTER: 'IBM Compatible
OPERATING SYSTEM: MS-DOS
SOFTWARE: DisplayWrite
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/285,440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   5.1%; Score 7; DB 1
100.0%; Pred. No. 2;
tive 0; Mismatches
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PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/858,947
FILING DATE: MARCH 27, 1992
ATTORNEY/AGENT INFORMATION:
NAME: WARTEN M. Cheek, Jr.
REGISSTRATION NUMBER: 33,367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REFERENCE/DOCKET NUMBER:
ELECOMMUNICATION INFORMATION:
TELEPHORE: 202-371-8850
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity 100.
                                                                                                                                                                                                                                                                                                                                                                                                                                                peptide
internal
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FRAGMENT TYPE:
US-08-440-861-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FILING DATE:
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US-08-285-440-1
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STREET: 805 Fifteenth Street, N.W., #700
CITY: Washington
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MEDIUM TYPE: Diskette, 3.5 inch, 144 mb
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Patent No. 5739008
GENERAL INFORMATION:
APPLICANT: Ken'ichiro HAYASHI et al.
TITLE OF INVENTION: POLYPEPTIDE
NUMBER OF SEQUENCES: 32
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FILING DATE:
PUBLICATION DATE:
RELEVANT RESIDUES IN SEQ ID NO:
       LENGTH: 118 amino acids
TYPE: amino acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NAME/KEY:
LOCATION:
IDENTIFICATION
OTHER INFORMATION:
PUBLICATION INFORMATION:
                                                                                                                                                                                               STRAIN:
INDIVIDUAL ISOLATE:
DEVELOPMENTAL STAGE:
                                                                                                                                                                                                                                                                                                                                                                                                     POSITION IN GENOME:
CHROMOSOME/SEGMENT:
MAP POSITION:
                                                                  linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STATE: D.C. COUNTRY: U.S.A.
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LIBRARY:
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ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      71 VSSKRNL 77
                                                                                 MOLECULE TYPE: HYPOTHETICAL:
                                                                                                                                                                                                                                                     HAPLOTYPE:
TISSUE TYPE:
                                                                                                                                                                                                                                                                                          CELL TYPE:
CELL LINE:
                                                                  TOPOLOGY:
                                                                                                                                                                                                                                                                                                                               ORGANELLE:
                                                                                                                                                                             ORGANISM:
                                                                                                                        ANTI-SENSE:
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US-08-630-349-2
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100.0%; Pred. No. 10;
tive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COUNTRY: U.S.A.
ZIP: 20005
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette, 5.25 inch, 500 kb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ADDRESSEE: Wenderoth, Lind & Ponack
STREET: 805 Fifteenth Street, N.W., #700
MEDIUM TYPE: Diskette, 3.5 inch, 144 mb
COMPUTER: IBM Compatible
OPERATING SYSTEM: MS-DOS
SOFTWARE: Wordperfect 5.1
CURRENT APPLICATION DATA:
                                                                                           CLASSITION NUMBER: USANGE APPLICATION NUMBER: USANGE APPLICATION DATA:
CLASSIFICATION DATA:
PRIOR APPLICATION DATA:
APPLICATION DATA:
APPLICATION NUMBER: 08/285,440
FILING DATE: August 4, 1994
PRIOR APPLICATION NUMBER: 07/858,947
FILING DATE: March 27, 1992
ATTORNEY/AGENT INFORMATION:
NAME: WARTEN MA. Cheek, Jr.
REGISTRATION NUMBER: 33,367
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH 116 maino acids
TYPE: amino acid
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 2, Application US/08285440
Patent No. 5532337
GENERAL INFORMATION:
APPLICANT: Ken'ichiro HAYASHI et al.
TITLE OF INVENTION: POLYPEPTIDE
NUMBER OF SEQUENCES: 32
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER: IBM Compatible
OPERATING SYSTEM: MS-DOS
SOFTWARE: DisplayWrite
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/285,440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FILING DATE:
FILING DATE:
FLING DATE:
FLING DATE:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/858,947
FILING DATE: MARCH 27, 1992
ATTORNEY/AGENT INFORMATION:
NAME: Warren M. Cheek, Jr.
NAME: WARTEN NUMBER: 33,367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      REGISTRATION NUMBER: 33,367
REFERENCE/DOCKET NUMBER:
TELECOMMUNICATION INFORMATION:
TELEPHONE: 202-371-8850
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      INFÓRMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Best Local Similarity 100.
Matches 7; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                         ; TOPOLOGY: linear; MOLECULE TYPE: peptide US-08-630-349-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CITY: Washington STATE: D.C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    71 VSSKRNL 77
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US-08-285-440-2
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100.0%; Pred. No. 11;
Live 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GENERAL INFORMATION:
APPLICANT: Ken'IChiro HAVASHI et al.
TITLE OF INVENTION: POLYBEPTIDE
NUMBER OF SEQUENCES: 32
CORRESPONDENCE ADDRESS:
ADDRESSEE: Wenderoth, Lind & Ponack
STREET: 805 Fifteenth Street, N.W., #700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COUNTRY: U.S.A.
ZIP: 20005
COMPUTER: 20005
MEDIUM TYPE: Diskette, 3.5 inch, 144 mb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      OPERATING SYSTEM: MS-DOS
SOFTWARE: Wordperfect 5.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/630,349
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FILING DATE:

PUBLICATION DATE:

RELEVATION DATE:

US-08-285-440-3
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US-08-630-349-3
; Sequence 3, Application US/08630349
; Patent No. 5739008
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER: IBM Compatible
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Matches 7; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LOCATION:
IDENTIFICATION METHOD:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               OTHER INFORMATION:
PUBLICATION INFORMATION:
             TOPOLOGY: linear
MOLECULE TYPE: peptide
HYPOTHETICAL:
                                                                                                                                                                 INDIVIDUAL ISOLATE:
DEVELOPMENTAL STAGE:
                                                                                                                                                                                                                                                                                                                                                                          CHROMOSOME/SEGMENT:
MAP POSITION:
UNITS:
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                                                                                                                                                                                                                                                                                                                                                           POSITION IN GENOME:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DOCUMENT NUMBER:
                                                                     ANTI-SENSE:
FRAGMENT TYPE:
ORIGINAL SOURCE:
ORGANISM:
                                                                                                                                                                                                                                                                                ORGANELLE:
IMMEDIATE SOURCE:
LIBRARY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       101 VSSKRNL 107
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CELL TYPE:
CELL LINE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CITY: Washi
STATE: D.C.
                                                                                                                                                                                                         HAPLOTYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                       NAME/KEY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE:
JOURNAL:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AUTHORS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VOLUME:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                     5.1%; Score 7; DB 1; Length 118; 100.0%; Pred. No. 10; 0; Indels tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER ZUGUS
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette, 5.25 inch, 500 kb
COMPUTER: TIBM Compatible
ODPERATING SYSTEM: MS-DOS
SOFTWARE: DisplayWrite
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/285,440
FILING DATE:
CLASSIFICATION NUMBER: 07/858,947
FILING DATE: March 27, 1992
ATTORNEY/AGENT INFORMATION:
NAMME: WAITEN M. Cheek, Jr.
REGISTRATION NUMBER: 33,367
REGISTRATION NUMBER: 33,367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TITLE OF INVENTION: POLYPEPTIDE
NUMBER OF SEQUENCES: 32
CORRESPONDENCE ADDRESS:
ADDRESSEE: Wenderoth, Lind & Ponack
STREET: 805 Fifteenth Street, N.W., #700
CITY: Washington
STATE: D.C.
COUNTRY: U.S.A.
SOFTWARE: Wordperfect 5.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/630,349
FILING DATE: APPLI 10, 1996
CLASSIFICATION: 435
                                                                                        CLASSIFICATION: 4.55
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/285,440
FILING DATE: AUGUST 4, 1994
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/858,947
FILING DATE: MARCH 27, 1992
ATTORNEY, AGENT INFORMATION:
NAME: WARTEN M. Cheek, Jr.
REGISTRATION NUMBER: 33,367
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 118 mino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; Sequence 3, Application US/08285440
; Patent No. 5532337
; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TELECOMMUNICATION INFORMATION: TELEPHONE: 202-371-8850
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      INFORMATION FOR SEQ ID NO: 3:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE CHARACTERISTICS:
LENGTH: 122 amino acids
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity 100.
Matches 7; Conservative
                                                                                                                                                                                                                                                                                                                                 TYPE: amino acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                        ; MOLECULE TYPE: peptide US-08-630-349-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: amino acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                        TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  97 VSSKRNL 103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              71 VSSKRNL 77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-08-285-440-3
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GENERAL INFORMATION:
APPLICANT: Singh, Mohan Bir
APPLICANT: Singh, Pobert B.
APPLICANT: Smith, Penclope
APPLICANT: Smith, Penclope
APPLICANT: Theerakulpisut, Piyada
APPLICANT: Hough, Terryn
APPLICANT: Buphioglu, Cenk
APPLICANT: Suphioglu, Cenk
APPLICANT: Ong, Eng Kok
CORESSONDERCES: 53
CORESSONDERCE ADDRESS:
ADDRESSEE: Woodcock Washburn Kurtz Macklewicz & No. 5721119ris
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
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                                                                                                                0; Indels
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SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/433,854
                                                                    Score 7; DB 1;
Pred. No. 25;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             5.1%; Score 7; DB 1
100.0%; Pred. No. 25;
tive 0; Mismatches
                                                                      Query Match 5.1%; Score 7; DB 1
Best Local Similarity 100.0%; Pred. No. 25;
Matches 7; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REGISTRATION NUMBER: 33,712
REGISTRATION NUMBER: 33,712
REFERENCE/DOCKET NUMBER: IMPH-0024
TELECOMMUNICATION INFORMATION:
TELEPHONE: (215) 568-3409
INFORMATION FOR SEQ ID NO: 2:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FILING DATE:
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/930,060
FILING DATE: 14-AUG-1992
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                          Sequence 2, Application US/08433854
Patent No. 5721119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             : 301 amino acids
amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE CHARACTERISTICS:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ; MOLECULE TYPE: protein US-08-433-854-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STREET: One Liberty CITY: Philadelphia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       OPERATING SYSTEM:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   130 EVHAVKP 136
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                                                                                                                                                           130 EVHAVKP 136
                                                                                                                                                                                                     151 EVHAVKP 157
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 28
US-08-174-745A-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COUNTRY:
                                                                                                                                                                                                                                                                   RESULT 27
US-08-433-854-2
        US-08-440-861-2
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GENERAL INFORMATION:
APPLICANT: Griffith, Irwin J.
APPLICANT: Kuo, Mel-Chang
APPLICANT: Lugman, Mohammad
TITLE OF INVENTION: T CELL EPITOPES OF RYEGRASS POLLEN
TITLE OF INVENTION: ALLERGEN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/106,016
FILING DATE: 31-AUG-1993
ATTORNEY/AGENT INFORMATION:
NAME: Amy E. Mandragouras
REGISTRATION NUMBER: 36,207
REFERENCE/DOCKET NUMBER: 1PC-075 (IMI-040cp)
TELECOMMUNICATION INFORMATION:
TELEFHONE: (617) 227-7400
TELEFAX: (617) 227-5941
INFORMATION FOR SEQ 1D NO: 2:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                          5.1%; Score 7; DB 1;
100.0%; Pred. No. 11;
Live 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COUNTRY: USA
ZIP: 02109
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII Text
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/440,861
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               E: LAHIVE & COCKFIELD 60 State Street, suite 510
FILING DATE: April 10, 1996
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/285,440
FILING DATE: August 4, 1994
PRIOR APPLICATION DATA:
APPLICATION DATA:
APPLICATION NUMBER: 07/858,947
FILING DATE: March 27, 1992
ATTORNEY/AGENT INFORMATION:
NAME: WALTEN M. CHOEK, JI:
REGISTRATION NUMBER: 33,367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 26
US-08-440-861-2
; Sequence 2, Application US/08440861
; Patent No. 5710126
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TYPE: amino acid
TOPOLOGY: linear
                                                                                                                                                                                                                                                                SEQUENCE CHARACTERISTICS:
LENGTH: 122 amino acids
TYPE: amino acid
STRANDEDNESS: single
                                                                                                                                                                                                                                               INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       7; Conservative
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                                                                                                                                                                                                                                                                                                                                                     ; TOPOLOGY: linear; MOLECULE TYPE: peptide US-08-630-349-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NUMBER OF SEQUENCES: 5
CORRESPONDENCE ADDRESS:
ADDRESSE: LAHIVE &
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Massachusetts
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Best Local Similarity
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CITY: Boston
STATE: Massac
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CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Mandragoures, Amy E.
REGISTRATION NUMBER: 16.207
REFERENCE/DOCKET NUMBER: IMI-039C2D2
REFERENCE/DOCKET NUMBER: IMI-039C2D2
TELEPHONE: (617) 227-5941
TELEPHONE: (617) 227-5941
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 301 amino acids
TYPE: amino acid
TYPE: amino acid
TYPE: protein
US-08-433-885-2
Query Match
Best Local Similarity 100.0%; Pred. No. 25;
Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps
Oy 130 EVHAVKP 136

Db 151 EVHAVKP 157
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Search completed: November 19, 2001, 13:09:43 Job time: 49 sec

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Woodcock Washburn Kurtz Mackiewicz & No. 5840316ris
e Liberty Place - 46th Floor
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                                                                                                            COMPUTER: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/195,947
FILING DATE: 14-FEB-1994
CLASSIFICATION: 435
PRIOR APPLICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SOFTWARE: Patentin Release #1.0, Version #1.25 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Hough, Terryn
APPLICANT: Suphioglu, Cenk
APPLICANT: Ong, Eng Kok
TILE OF INVENTION: Ryegrass Pollen Allergen
NUMBER OF SEQUENCES: 53
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Pred. No. 25
Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                          PRIOR APPLICATION 1473
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/930,060
FILING DATE: 14.AdG-1992
ATTORNEY/AGENT INFORMATION:
NAME: Hohenschutz, Liza D.
REFERENCE/OOCKET NUMBER: 13,712
REFERENCE/OOCKET NUMBER: IMPH-0024
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ADDRESSEE: Lahive & Cockfield
STREET: 60 State Street, Suite 510
CITY: Boston
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           UMBER: US/08/433,885
02-MAY-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GENERAL INFORMATION:
APPLICANT: Singh, Mohan Bir
APPLICANT: Knox, Robert B.
APPLICANT: Smith, Penelope
APPLICANT: Avjioglu, Asil
APPLICANT: Theerakulpisut, Piyada
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PC-DOS/MS-DOS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDIUM TYPE: Floppy disk COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-COMPUSATION SYSTEM: PC-DOS/MS-COMPUSATION OF PC-DOS/MS-COMPUSATIO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TELEPHONE: (215) 568-3100
TELEFAX: (215) 568-3439
INFORMATION FOR SEQ ID NO: 2:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               : 301 amino acids
amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match 5.1
Best Local Similarity 100.
Matches 7; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE CHARACTERISTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ; MOLECULE TYPE: protein US-08-195-947-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER:
                                 TOPOLOGY: linear
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                  ADDRESSEE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-08-433-885-2
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 30
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                                                                                                                                                                                                                                                                                                                                                                                                      ADDRESSEE: Woodcock Washburn Kurtz Mackiewicz & No. 5736362ris
STREET: One Liberty Place - 46th Floor
CITY: Philadelphia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Ong, Eng Kok
TITLE OF INVENTION: Ryegrass Pollen Allergen
NUMBER OF SEQUENCES: 53
                                                                                                                                                                                                                                                                                                   APPLICANT: Ong, Eng Kok
TITLE OF INVENTION: Ryegrass Pollen Allergen
WMBER OF SEQUENCES: 53
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5.1%; Score 7; DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             100.0%; Preu. ...
100.0%; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FILING DATE:
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/930,060
FILING DATE: 14-AUG-1992
ATTORNEY AGENT INFORMATION:
NAME: Hohenschutz, Liza D.
REGISTRATION NUMBER: 33,712
REFERENCE/DOCKET NUMBER: IMPH-0024
TELECOMMUNICATION INFORMATION:
TELEPHONE: (215) 568-3100
TELEFAX: (215) 568-3100
TELEFAX: (215) 568-3100
TELEFAX: (215) 568-3130
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICATION NUMBER: US/08/174,745A
                                                                                       Singh, Mohan Bir
Knox, Robert B.
Smith, Penelope
Avjioglu, Asil
Therakulpisut, Piyada
Hough, Terryn
Suphioglu, Cenk
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Knox, Robert B.
Smith, Penelope
Ayjioglu, Asil
Theerakulpisut, Piyada
Sequence 2, Application US/08174745A Patent No. 5736362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COUNTKI.
ZIP: 19103
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
WITTER: IBM PC COMPATIBLE
PC-DOS/MS-D
TO PC-DOS/MS-D
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Patent No. 5840316
GENERL INFORMATION:
APPLICANT: Singh, Mohan Bir
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Hough, Terryn
Suphioglu, Cenk
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Best Local Similarity 100.
Matches 7; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ; MOLECULE TYPE: protein US-08-174-745A-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CORRESPONDENCE ADDRESS:
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                                                                  GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          130 EVHAVKP 136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 151 EVHAVKP 157
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APPLICANT:
APPLICANT:
APPLICANT:
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APPLICANT:
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APPLICANT:
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US-08-195-947-2
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STIC-ILL

W. 88. IS 6

From:

Huynh, Phuong N. Monday, November 19, 2001 12:30 PM STIC-ILL RE: 09/696,169

Sent: To:

Subject:

### Please deliver the following:

Int Arch Allergy Immunol 1995 Sep;108(1):49-54

J Allergy Clin Immunol 1996 Mar;97(3):781-7

Thanks,

Neon Art unit 1644 Mail CM1, 9E12 Office CM1, 9D06 Tel 308-4844

1!AA\_SEQUENCE 1.0 CAA76556 GB:X16955 Phl p6 allergen [Phleum pratense] (ver 1)

CAA76556 Length: 138 November 19, 2001 13:06 Type: P Check: 8085 ...

1 MAAHKFMVAM FLAVAVVLGL ATSPTAEGGK ATTEEQKLIE DINASFRAAM

51 ATTANVPPAD KYKTFEAAFT VSSKRNLADA VSKAPQLVPK LDEVYNAAYN

101 AADHAAPEDK YEAFVLHFSE ALHIIAGTPE VHAVKPGA

caa76556.pep

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; TOIG of: caa76556 check: 8085 from: 1 to: 138
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; CAA76556 GB:Y16955 Phl p6 allergen [Phleum pratense] (ver 1)

CAA76556 Length: 138 November 19, 2001 13:06 Type: P Check: 8085 ... caa76556 MAAHKFWVAMFLAVAVVLGLATSPTAEGGKATTEEQKLIEDINASFRAAMATTANVPPADKYKTFEAAFT VSSKRNLADAVSKAPQLVPKLDEVYNAAYNAADHAAPEDKYEAFVLHFSEALHIIAGTPEVHAVKPGA1

Ltd.
Compugen
- 2000
(c) 1993
Copyright

OM protein - protein search, using sw model

November 19, 2001, 13:09:00 ; Search time 14:36 Seconds (without alignments) 732.040 Million cell updates/sec Run on:

CAA76556 Perfect score:

1 MAAHKFMVAMFLAVAVVLGL.....SEALHIIAGTPEVHAVKPGA 138 Sequence:

Scoring table:

OLIGO Gapop 60.0 , Gapext 60.0

219241 seqs, 76174552 residues Searched:

0

Word size :

219241 Total number of hits satisfying chosen parameters:

Minimum DB seq length: 0 Maximum DB seq length: 2000000000

Post-processing: Listing first 50 summaries

PIR\_68:\*
1: pir1:\*
2: pir2:\*
3: pir3:\*
4: pir4:\* Database :

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

### SUMMARIES

		dР			SOLUTION	
Result No.	Score	Query	Length	DB	ID	Description
1	. &	58.0	132	. ~		pollen allerden Ph
7	17	12.3	264	~	T09449	allergen V - velve
3	15	10.9	280	7	S38584	allergen Phl p Vb
4	12	8.7	257	~	S32101	otei
2	12	8.7	312	7	S37400	_
9	12	8.7	339	П	JT0756	ы
7	11		28	~	A60359	pollen allergen DG
8	თ	•	116	~	S01507	NADH dehydrogenase
o	80	5.8	221	7	C64040	hypothetical prote
10	80		255	7	D83416	probable short-cha
11	80	•	443	7	T01697	omega-3 fatty acid
12	80		503	7	B81690	ധ
13	<b>6</b> 0	•	578	7	T03475	transmembrane prot
. 14	80	5.8	765	7	G64502	hypothetical prote
15	7	5.1	118	7	E69696	ribosomal protein
16	7	5.1	183	7	S54818	ribulose-bisphosph
17	7	5.1	189	7	D84303	hypothetical prote
18	7	5.1	195	-	YHBPF6	morphogenetic prot
19	7	5.1	308	7	A38582	
	7	5.1	315	7	B84654	probable CCCH-type
21	7	5.1	333	~	A39098	
22	7	5.1	348	7	D75368	probable oxidoredu
23	7	5.1	351	~	E69218	conserved hypothet
24	7	5.1	378	7	A33271	manganese peroxida
25	7	5.1	380	7	A71181	probable isomerase
56	7	5.1	406	7	H75527	probable cation ex
27	7	5.1	418	~	E70899	
28	7	5.1	421	7	D86596	
29	7	5.1	421	~	F72028	ATP-dependent Clp

PTS system, fructo	phosphotransferase	hypothetical prote	probable heavy-met	Id-associated prot	hypothetical prote	conserved hypothet	caldesmon - human	oxysterol-binding	oxysterol-binding	hypothetical prote	probable transcrip	hypothetical prote	cell division prot	cell division prot	KIAA0614 protein -	probable fatty-aci	fatty acid synthas	variant-specific s	hypothetical prote	tms1 protein - mou
н86078	540843	G70930	D72491	A57591	T49622	A75560	JH0628	A34581	A34404	T00959	C83427	T05066	A64828	E85614	T00390	T43409	T38781	T28634	G64674	S54144
481 2	485 2	610 2	621 2	621 2	735 2	749 2	793 1	807 2	809 2	838 2	901 2	1016 2	1329 2	1342 2	1630 2	1842 2	1842 2	2182 2	29 2	44 2
5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	4.3	4.3
7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	9	9
30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	20

# ALIGNMENTS

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Solution allergen Phl p VI precursor - common timothy C; Species: Phleum pratense (common timothy) C; Species: Phleum pratense (common timothy) C; Species: Phleum pratense (common timothy) C; Species: O6-Jan-1995 #text_change 20-Aug-1999 C; Accession: S38885 R; Petersen, A.; Bufe, A.; Schramm, G.; Schlaak, M.; Becker, W. Submitted to the EMBL Data Library, November 1993 A; Description: Phl p VI - a major allergen of timothy grass (Phleum pratense) pollen A; Reference number: S38885 A; Reference number: S38885 A; Residues: 1-132 <PET>
A; Residues: 1-132 <PET>
A; Cross-references: EMBL: Z27082; NID: 9414711; PIDN: CAA81608.1; PID: 9414712 C; Superfamily: grass pollen allergen IX C; Superfamily: grass pollen allergen IX C; Reywords: pollen slengen Phl p VI #status predicted <MAT>
F; 23-132/Product: pollen allergen Phl p VI #status predicted <MAT>
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Gaps ö Query Match 58.0%; Score 80; DB 2; Length 132; Best Local Similarity 100.0%; Pred. No. 8.8e-72; Matches 80; Conservative 0; Mismatches 0; Indels Query Match

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43 NASFRAAMATTANVPPADKYKTFEAAFTVSSKRNLADAVSKAPQLVPKLDEVYNAAYNAA 102 g ò

103 DHAAPEDKYEAFVLHFSEAL 122 ò pp

6

RESULT T09449

allergen V - velvet grass (fragment)
C;Species: Holcus lanatus (velvet grass)
C;Species: Holcus lanatus (velvet grass)
C;Species: Holcus lanatus (velvet grass)
C;Date: 20.8ep-1999 #sequence\_revision 20.8ep-1999 #text\_change 21-Jul-2000
C;Accession: T09449
R;Schramm, G.; Bufe, A.; Petersen, A.; Schlaak, M.; Becker, W.
Eur. J. Biochem. 252, 200-206, 1998
A;Title: Molecular and immunological characterization of group V allergen isoforms fr A;Reference number: 216674; MUID:98181862
A;Accession: T09449
A;Accession: T09449
A;Accession: T0949
A;Accession: Lranslated from GB/EMBL/DDBJ
A;Acteur translated from GB/EMBL/DDBJ
A;Residues: 1-264 <SCH>

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group-V allergen isoform, Lol p VB precursor (clone 19R) - perennial ryegrass N.Alternate names: 34K allergen (c; Species: Lollum perenne (perennial ryegrass) (c; Species: Lollum perenne (perennial ryegrass) (c; Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 10-Sep-1999 #scossion: JT0756; S38289 (c; Accession: JT0756; S38289 (c; Accession: JT0756; S38289 (dene 134, 235-240, 1993 A; Title: Cloning of a cDNA encoding a group-V (group-IX) allergen isoform from rye-gr A; Reference number: JT0756; MUID: 94085783
                                                                                                                                                         A; Molecule type: mRNA
A; Residues: 1-312 < VRTE>
A; Residues: 1-312 < VRTE>
A; Cross-references: EMBL: X74735; NID:9398829; PIDN:CAA52753.1; PID:9398830
B; Petersen, A.; Schramm, G.; Becker, W.M.; Schlaak, M.
Biol. Chem. Hoppe-Seyler 374, 855-861, 1993
B; Title: Comparison of four grass pollen species concerning their allergens of grass
A; Reference number: S38288; MUID:94092339
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Molecule type: mRNA
A; Residues: 1-339 <0005>
A; Cross-references: GB:L13083; NID:9455287; PIDN:AAA33405.1; PID:9455288
A; Petersen, A.; Schramm, G.; Becker, W.M.; Schlaak, M.
Biol. Chem. Hoppe-Seyler 374, 855-861, 1993
A; Pitle: Comparison of four grass pollen species concerning their allergens of grass
A; Reference number: S38288; MUID:94092339
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         F;1-25/Domain: signal sequence #status predicted <SIG>F;26-339/Product: group-V allergen isoform, Lol p VB #status experimental <MAT>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A60359

pollen allergen DG3 - orchard grass (fragment)
C;Species: Dactylis glomerata (orchard grass)
C;Date: O3-Feb-1993 #sequence_revision 03-Feb-1993 #text_change 03-Nov-2000
C;Accession: A60359
C;Date: 06-Jan-1995 #sequence_revision 06-Jan-1995 #text_change 20-Aug-1999
C;Accession: S37400; S38293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                     C.Superfamily: grass pollen allergen IX
F.1-25/Domain: signal sequence #status predicted <SIG>
F.26-312/Product: allergen Phl p V #status predicted <MAT>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8.7%; Score 12; DB 1; Ls
100.0%; Pred. No. 0.00045;
ative 0; Mismatches 0;
                                                 R;Vrtala, S.
Submitted to the EMBL Data Library, August 1993
A;Reference number: S37400
A;Accession: S37400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  C; Superfamily: grass pollen allergen IX
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Molecule type: protein A; Residues: 26-45 <PET>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Best Local Similarity
Matches 12; Conserv
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Best Local Similarity
Matches 12; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   C; Keywords: pollen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A; Molecule type:
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                                                                                                                                                                                                                                                                                                                                                                                         allergen Phl p Vb - common timothy
C; Species: Phleum pratense (common timothy)
C; Species: Phleum pratense (common timothy)
C; Date: 06-Jan-1995 #sequence_revision 06-Jan-1995 #text_change 08-Sep-1997
C; Accession: 38584
R; Bufe, A.; Becker, W.; Petersen, A.; Schramm, G.; Schlaak, M.
Submitted to the EMBL Data Library, November 1993
A; Description: Major allergen Phl p Vb is highly homologous to a pathogenesis related pr
A; Reference number: S38584
A; Reference sabses
A; Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FILESA protein - common timothy (fragment)
C;Species: Phleum pratense (common timothy)
C;Species: Phleum pratense (common timothy)
C;Accession: 332101
R;Bufe, A.; Becker, W.M.; Petersen, A.; Schramm, G.; Schlaak, M.
Submitted to the EMBL Data Library, February 1993
A;Bescription: Phl pV (timothy grass) major allergen bears at least two B-cell epitopes. A;Reference number: S32101
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A;Cross-references: EMBL:297874; NID:g2266624; PIDN:CAB10765.1; PID:g2266625
C;Superfamily: grass pollen allergen IX
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                                                                                                     Length 264
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                                                                                                                                                         0; Indels
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A;Residues: 1-280 <BUF>
A;Cross-references: EMBL:227083; NID:g414709; PID:g414710
C;Superfamily: grass pollen allergen IX
C;Keywords: pollen
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                                                                                                  12.3%; Score 17; DB 2; L6
100.0%; Pred. No. 4.1e-09;
ive 0; Mismatches 0;
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100.0%; Pred. No. 4.1e-07;
.ive 0; Mismatches 0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A; Molecule type: mRNA
A; Residues: 1.257 < ABUP.
A; Cross-references: EMBL: X70942
C; Superfamily: grass pollen allergen IX
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                                                                                    Ouery Match
Best Local Similarity 100.
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                                                                                                                                                                                                             54 ANVPPADKYKTFEAAFT 70
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Best Local Similarity 100.
Matches 15; Conservative
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Best Local Similarity 100.
Matches 12; Conservative
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allergen Phl p V precursor
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P.; Hickey, A.; Larbig,

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A;Title: Complete genome sequence of Pseudomonas aeruginosa PA01, an opportunistic pa A;Reference number: A82950; MUID:20437337
A;Accession: D83416
A;Status: preliminary
A;Molecule type: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A;Residues: 1.255 <cro>A;Cross-references: GB:AE004609; GB:AE004091; NID:g9947810; PIDN:AAG05217.1; GSPDB:GN
A;Experimental source: strain PAO1
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R;Berberich, T.; Harada, M.; Sugawara, K.; Kodama, H.; Iba, K.; Kusano, T.
R;Berberich, T.; Harada, M.; Sugawara, K.; Kodama, H.; Iba, K.; Kusano, T.
Plant Mol. Biol. 36, 297-306, 1998
A;Telle: Two maize genes encoding omega-3 fatty acid desaturase and their differentia A;Reference number: 214400; MUID:98145435
A;Accession: T01697
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
                                                                                                                                                                                                                                                                             probable short-chain dehydrogenase PA1828 [imported] - Pseudomonas aeruginosa (strain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A;Gene: PA1828
C;Superfamily: ribitol dehydrogenase; short-chain alcohol dehydrogenase homology
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A;Cross-references: EMBL:D63954; NID:g2446997; PIDN:BAA22441.1; PID:g2446998
A;Experimental source: strain honey bantum
C;Genetics:
                                                                                                                                                                                                                                                                                                     C;Species: Pseudomonas aeruginosa
C;Date: 15-5ep-2000 #sequence_revision 15-5ep-2000 #text_change 31-Dec-2000
C;Accession: D83416
R;Stover, C.K.; Pham, X.Q.; Erwin, A.L.; Mizoguchi, S.D.; Warrener, P.; Hick adman, S.; Yuun, Y.; Brody, L.L.; Coulter, S.N.; Folger, K.R.; Kas, A.; Lark Nature 406, 959-964, 2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    omega-3 fatty acid desaturase (EC 1.14.99.-) FAD7 - maize
C;Species: Zea mays (maize)
C;Date: 19-Feb-1999 #sequence_revision 19-Feb-1999 #text_change 21-Jul-2000
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C;Superfamily: omega-3 fatty acid desaturase
C;Reywords: oxidoreductase
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Pred. No. 5.2;
0; Mismatches
                  Mismatches
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100.0%; Pred. No. 3.3
tive 0; Mismatches
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Conservative 0;
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Best Local Similarity
'-has 8; Conserve
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5 AVVLGLAT 12
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                                                                     15 AVVLGLAT 22
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    sea urchin (Strongylocentrotus pu

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C64040
hypothetical protein H11681 - Haemophilus influenzae (strain Rd KW20)
C54040
hypothetical protein H11681 - Haemophilus influenzae
C; Species: Haemophilus influenzae
C; Species: Haemophilus influenzae
C; Species: Haemophilus influenzae
C; Date: 18-Aug-1995 #sequence_revision 18-Aug-1995 #text_change 08-Oct-1999
C; Accession: C64040
R; Pleischmann, R.D.; Adams, M.D.; White, O.; Clayton, R.A.; Kirkness, E.F.; Kerlavage, P. Godyne, J.D.; Scott, J.; Shirley, R.; Liu, L.I.; Glodek, A.; Kelley, J.M.; Weidman, J. D.M.; Brandon, R.C.; Flne, L.D.; Fritchman, J.L.; Fuhrmann, J.L.; Geoghagen, N.S.M.
Science 269, 496-512, 1995
A; Authors: Gnehm, C.L.; McDonald, L.A.; Small, K.V.; Fraser, C.M.; Smith, H.O.; Venter, A; Title: Whole-genome random sequencing and assembly of Haemophilus influenzae Rd.
A; Reference number: A64000; WUID:95350630
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A;Genome: mitochondrion
A;Genetic code: SGC8
C;Superfamily: NADH dehydrogenase (ubiquinone) chain 3
C;Keywords: membrane-associated complex; mitochondrion; NAD; oxidative phosphorylation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A;MOlecule type: DNA
A;Residues: 1-221,<TIGR>
A;Cross-references: GB:U32841; GB:L42023; NID:g1574529; PIDN:AAC23327.1; PID:g1574533;
R; Walsh, D.J.; Matthews, J.A.; Denmeade, R.; Maxwell, P.; Davidson, M.; Walker, M.R. Int. Arch. Allergy Appl. Immunol. 91, 419-425, 1990
A; Title: Monoclonal antibodies to proteins from cocksfoot grass (Dactylis glomerata) A; Reference number: A60359; MUID: 91007970
A; Reference number: A60359
A; Molecule type: protein
A; Residues: 1-28 GWAL>
C; Superfamily: grass pollen allergen IX
C; Keywords: pollen
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NADM dehydrogenase (ubiquinone) (EC 1.6.5.3) chain 3 - sea urchin (Strongylocentrott C:Species: mitochondrion Strongylocentrotus purpuratus (purple urchin) C:Species: mitochondrion Strongylocentrotus purpuratus (purple urchin) C:Date: 01-Dec-1989 #sequence_revision 01-Dec-1989 #text_change 07-Dec-1999 C:Accession: 501502, H.T.: Elliott, D.J.: Math, V.B.: Farquharson, A. Mol. Biol. 202, 185-217, 1988 A. Mol. Biol. 202, 185-217, 1988 A. Mullochide sequence and gene organization of sea urchin mitochondrial DNA. A:Reference number: $01499; MUID:89011951
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A;Residues: 1-116 <JAC>
A;Cross-references: EMBL:X12631; NID:9296545; PIDN:CAA31158.1; PID:913673
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                                                                                                                                                                                                                                                                                                                             8.0%; Score 11; DB 2; Length 28; 100.0%; Pred. No. 0.00054; tive 0; Mismatches 0; Indels
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100.0%; Pred. No. 0.17;
live 0; Mismatches
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Best Local Similarity 100.
Matches 11; Conservative
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Best Local Similarity
Matches 9; Conserv
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Best Local Similarity
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A; Map position: REV1602382-1600085
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A;Accession: S54818
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Best Local Similarity
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A; Residues: 1-183 <VIL>
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probable sodium-translocating NADH dehydrogenase (ubiquinone) (EC 1.6.5.-) ngrB chain TC C; Species: Chlamydia muridarum, Chlamydia trachomatis MoPn C; Species: Chlamydia muridarum, Chlamydia trachomatis MoPn C; Date: 31-Mar-2000 #sequence_revision 31-Mar-2000 #text_change 21-Jul-2000 C; Accession: B81690 R; Read, T.D.; Brunham, R.C.; Shen, C.; Gill, S.R.; Heidelberg, J.F.; White, O.; Hickey, C.; Dodson, R.; Gwinn, M.; Nelson, W.; DeBoy, R.; Kolonay, J.; McClarty, G.; Salzberg, Nucleic Acids Res. 28, 1397-1406, 2000
A; Title: Genome sequences of Chlamydia trachomatis MoPn and Chlamydia pneumoniae AR39. A; Reference number: A81500; MUID:20150255
A; Recession: B81690
A; Status: preliminary
A; Molecule type: DNA
A; Residues: 1-503 < TET>
A; Cross-references: GB:AED002123; GB:AED02160; NID:g7190585; PIDN:AAF39389.1; PID:g719059
A; Experimental source: strain Nigg (MoPn)
C; Genetics:
A; Gene: TC0550
C; Keywords: oxidoreductase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        C; Species: Rhodobacter capsulatus
C; Date: 24-Mar-1999 #sequence_revision 24-Mar-1999 #text_change 20-Aug-1999
C; Accession: T03475
C; Accession: T03475
B; Vicek, C; Paces, V; Maltsev, N; Paces, J; Haselkorn, R; Fonstein, M.
Proc. Natl. Acad. Sci. U.S.A. 94, 9384-9388, 1997
A; Title: Sequence of a 189-kb segment of the chromosome of Rhodobacter capsulatus SB1003
A; Reference number: 214955; MUID:97404404
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fg64502
hypothetical protein MJ1626 - Methanococcus jannaschii
c;64502
c;5pecies: Methanococcus;jannaschii
c;5pecies: Methanococcus;jannaschii
c;5pecies: Methanococcus;jannaschii
c;5pecies: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 22-Oct-1999
c;5pecies: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 22-Oct-1999
R;5ult, C.J.; White, O.; Olsen, G.J.; Zhou, L.; Fleischmann, R.D.; Sutton, G.G.; Blake, R. Reich, C.I.; Overbeek, R.; Kirkness, E.F.; Weinstock, K.G.; Merrick, J.M.; Glodek, A.; Fson, J.D.; Sadow, P.W.; Hanna, M.C.; Cotton, M.D.; Roberts, K.M.; Hurst, M.A.
science 273, 1058-1073, 1996
A;Authors: Raine, B.P.; Borodovsky, M.; Klenk, H.P.; Fraser, C.M.; Smith, H.O.; Woese, C. A;Title: Complete genome sequence of the methanogenic archaeon, Methanococcus jannaschii
A;Reference number: A64300; MUID: 96337999
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C;Genetics:
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. 5.8;
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100.0%; Pred. No. 5.8
:ive 0; Mismatches
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100.0%; Pred. No. 6.5
ative 0; Mismatches
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C;Superfamily: proline carrier protein
C;Keywords: transmembrane protein
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Best Local Similarity 100..
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Matches 8; Conservative
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313 TSPTAEGG 320
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CiSpecies: Bacillus subtliss
CiDate: 05-Dec-1997 #sequence_revision 05-Dec-1997 #text_change 20-Jun-2000
CiSpecies: Bacillus subtliss
CiDate: 05-Dec-1997 #sequence_revision 05-Dec-1997 #text_change 20-Jun-2000
CiAccession: E6696
CiAccession: E6696
CiAccession: E6696
CiBron, S.; Broulllet, S.; Bruschi, C.V.; Caldwell, B.; Capuano, V.; Carter, N.M.;
A.; Bhrlich, S.D.; Emmerson, P.T.; Entian, K.D.; Errington, J.; Fabret, C.; Ferrari,
Nature 390, 249-256, 1997
A; Authors: Foulger, D.; Fritz, C.; Fujita, M.; Fujita, Y.; Fuma, S.; Galizzi, A.; Galizzi, A.; Galicch, J.; Harwood, C.R.; Henaut, A.; Hilbert, H.; Holsappel, S.; Hosono, S.; Hullo, M.
Koetter, P.; Koningstein, G.; Krogh, S.; Kumano, M.; Kurita, K.; Lapidus, A.; Lardino
A; Authors: Lauber, J.; Lazarevic, V.; Lee, S.M.; Levine, A.; Liu, H.; Masuda, S.; Mau
Y, M.; Ogawa, K.; Ogiwara, A.; Oudega, B.; Rose, M.; Sadaie, Y.; Sato, T.; S
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A;Description: Evidence for cis acting elements and trans acting protein factors in t
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                                                                                                                  A;Cross-references: GB:U67602; GB:L77117; NID:g1592214; PIDN:AAB99649.1; PID:g1500524
C;Genetics:
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A;Status: preliminary; nucleic acid sequence not shown; translation not shown A;Molecule type: DNA A;Residues: 1-765 <BUL>
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100.0%; Pred. No. 8.2;
ative 0; Mismatches
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100.0%; Pred. No. 17;
ative 0; Mismatches
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pollen allergen pIb precursor - perennial ryegrass
N;Alternate names: 30K allergen
C;Species: Lolium perenne (perennial ryegrass)
C;Date: 14-Feb-1992 #sequence_revision 14-Feb-1992 #text_change 07-May-1999
C;Accession: A38582; S38290
R;Singh, M.B.; Hough, T.; Theerakulpisut, P.; Avjioglu, A.; Davies, S.; Smith, P.M.;
Proc. Natl. Acad. Sci. U.S.A. 88, 1384-1388, 1991
A;Title: Isolation of cDNA encoding a newly identified major allergenic protein of ry
A;Reference number: A38582; MUID:91142177
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             probable CCCH-type zinc finger protein [imported] - Arabidopsis thaliana C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Date: 02-Feb-2001 #sequence_revision 02-Feb-2001 #text_change 02-Feb-2001
C;Accession: B84654
R;Lin, X.; Kaul, S.; Rounsley, S.D.; Shea, T.P.; Benito, M.I.; Town, C.D.; Fujii, C.Y M.; Koo, H.; Woffat, K.S.; Cronin, L.A.; Shen, M.; VanAken, S.E.; Umayam, L.; Tallon, euss, D.; Nierman, W.C.; White, O.; Eisen, J.A.; Salzberg, S.L.; Fraser, C.M.; Venter Nature 402, 761-768, 1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A.Cross-references: GB:M59163
R.Petersen, A.; Schramm, G.; Becker, W.M.; Schlaak, M.
Biol. Chem. Hoppe-Seyler 374, 855-861, 1993
A.Title: Comparison of four grass pollen species concerning their allergens of grass A.Reference number: S38288; MUID:94092339
A.Accession: S38290
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A;Residues: 26-45 <PET>
C;Superfamily: grass pollen allergen IX
C;Keywords: pollen
F;1-25/Domain: signal sequence #status predicted <SIG>
F;26-308/Product: pollen allergen pIb #status experimental <MAT>
                                                                                                                                                                                                                                                                                                                                                                                                                                        A;Status: preliminary; not compared with conceptual translation A;Molecule type: mRNA A;Residues: 1-308 <SIN>
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Pred. No. 37;
0; Mismatches
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100.0%; Pred. No. 38;
iive 0; Mismatches
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100.0%; Pre
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Matches 7; Conservative
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A;Molecule type: DNA
A;Residues: 1-315 <STO>
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           A; Gene: At2g25900
A; Map position: 2
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NyAlternate names: Pl2 protein
C;Species: phage phi-6
N;Alternate names: Pl2 protein
C;Species: phage phi-6
A;Note: host Pseudomonas phaseolicola
C;Date: 28-Dec-1987 #sequence_revision 28-Dec-1987 #text_change 23-Jul-1999
C;Accession: B33368
R;McGraw, T:; Mindich, L.; Frangione, B.
J. Virol. 58, 142-151, 1986
A;Reference number: A93017; MUID:86144085
A;Reference number: A93017; MUID:86144085
A;Accession: B23368
A;Molecule type: genomic RNA
A;Restances: U-195 <MCG>A;Cross-references: GB:Ml2921; NID:g215492; PIDN:AAA32359.1; PID:g215494
C;Genetics:
A;Gene: Pl2
A;Map position: segment S
C;Superfamily: phage phi-6 morphogenetic protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                            hypothetical protein Vng1492c [imported] - Halobacterium sp. NRC-1
C;Species: D84303
R;Ng, W.V.; Kennedy, S.P.; Mahairas, G.G.; Berquist, B.; Pan, M.; Shukla, H.D.; Lasky, S. Leithauser, B.; Keller, K.; Cruz, R.; Danson, M.J.; Hough, D.W.; Maddocks, D.G.; Jablc proc. Natl. Alam, M.; Freitas, T. 12176-12181, 2000
A;Authors: Hou, S.; Daniels, C.J.; Dennis, P.P.; Omer, A.D.; Ebhardt, H.; Lowe, T.M.; Listication confined by MUID:20504483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
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A; Molecule type: DNA
A; Residues: 1-189 <STO>
A; Cresidues: 1-189 <STO>
A; Cresidues: 1-189 <STO>
A; Cresidues: 0B: AE004437; NID: 910580988; PIDN: AAG19792.1; GSPDB: GN00138
C; Genetics:
A; Gene: VNG1492C.
A;Cross-references: EMBL:X87171; NID:g809532; PIDN:CAA60636.1; PID:g809533 A;Note: the source is designated as Amaranthus hypochondriacus C;Superfamily: ribulose-bisphosphate carboxylase small chain C;Keywords: carbon-carbon lyase; carboxy.1yase
                                                                                                                                                                                                                            Gaps
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Best Local Similarity 100.0%; Pred. No. 25;
Matches 7; Conservative 0; Mismatches
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Mismatches
                                                                                                                                                                 5.1%; Score 7; DB 2
100.0%; Pred. No. 24;
iive 0; Mismatches
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100.0%; Pre
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Best Local Similarity 100.
Matches 7; Conservative
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Best Local Similarity
Matches 7; Conserv
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manganese peroxidase (EC 1.11.1.13) MnP-1 precursor - basidiomycete (Phanerochaete ch N; Alternate names: lignin peroxidase mnp-1, manganese-dependent C; Species: Phanerochaete chrysosporium C; Date: OB Dec-1989 #sequence_revision 08-Dec-1989 #text_change 07-Nov-1997 C; Accession: JN0092; A33271 R;Godfrey, B.J.; Mayfield, M.B.; Brown, J.A.; Gold, M.H. A; Title: Characterization of a gene encoding a manganese peroxidase from Phanerochaet A; Reference number: JN0092; MJID:9103001
                                                            A;Cross-references: GB:AE000864; GB:AE000666; NID:g2621970; PIDN:AAB85385.1; PID:g262
A;Experimental source: strain Delta H
C;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      R;Kawarabayasi, Y.; Sawada, M.; Horikawa, H.; Haikawa, Y.; Hino, Y.; Yamamoto, S.; Se M.; Ohfuku, Y.; Funahashi, T.; Tanaka, T.; Kudoh, Y.; Yamazaki, J.; Kushida, N.; Ogu DNA Res. 5, 55-76, 1998
A;Title: Complete sequence and gene organization of the genome of a hyper-thermophili A;Reference number: A71000; MUID:98344137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A;Cross-references: GB:J04980
R;Pribnow, D.; Mayfield, M.B.; Nipper, V.J.; Brown, J.A.; Gold, M.H.
J. Biol. Chem. 264, 5036-5040, 1989
A;Title: Characterization of a cDNA encoding a manganese peroxidase, from the lignin-A;Reference number: A33271; MUID:89174785
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              C;Superfamily: lignin peroxidase
C;Keywords: extracellular protein; glycoprotein; heme; manganese; oxidoreductase
F;1-21/Domain: signal sequence #status predicted <SIG>
F;97,152,238/Binding site: carbohydrate (Asn) (covalent) #status predicted
                       A; Status: preliminary; nucleic acid sequence not shown; translation not shown
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probable isomerase - Pyrococcus horikoshii
C;Species: Pyrococcus horikoshii
C;Date: 14-Aug-1998 #sequence_revision 14-Aug-1998 #text_change 21-Jul-2000
C;Accession: A71181
                                                                                                                                                                                                                                                                                                          Length 351;
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                                                                                                                                                                    A;Gene: WIHH87
A;Start codon: TTG
C;Superfamily: conserved hypothetical protein MTH887
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     5.1%; Score 7; DB 2;
100.0%; Pred. No. 44;
ative 0; Mismatches
                                                                                                                                                                                                                                                                                                          DB 2;
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                                                                                                                                                                                                                                                                                                    5.1%; Score 7; DB 2
100.0%; Pred. No. 42;
tive 0; Mismatches
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A; Residues: 1-378 <PRI>
A; Cross-references: GB:J04624
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Best Local Similarity
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Matches 7; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A; Molecule type: DNA
A; Residues: 1-378 <GOD>
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                                                    DNA
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A; Accession: E69218
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                                               A; Molecule type: D
A; Residues: 1-351
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C; Species: Poa pratensis (Kentucky bluegrass)
C; Species: Poa pratensis (Kentucky bluegrass)
C; Species: Poa pratensis (Kentucky bluegrass)
C; Species: Pov-1991 #sequence_revision 03-Apr-1992 #text_change 20-Aug-1999
C; Accession: A39098
R; Silvanovich, A.; Astwood, J.; Zhang, L.; Olsen, E.; Kisil, F.; Sehon, A.; Mohapatra, S. J. Biol. Cham. 266, 1204-1210, 1991
A; Title: Nucleotide sequence analysis of three cDNAs coding for Poa p IX isoallergens of A; Accession: A39098
A; Status: preliminary
A; Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   probable oxidoreductase - Deinococcus radiodurans (strain R1)
C;Species: Deinococcus radiodurans
C;Species: Deinococcus radiodurans
C;Date: 03-Dec-1999 #sequence_revision 03-Dec-1999 #text_change 31-Mar-2000
C;Accession: D7556
R;White, 0.; Eisen, J.A.; Heidelberg, J.F.; Hickey, E.K.; Peterson, J.D.; Dodson, R.J.;
M., Shen, M.; Vamathevan, J.J.; Lam, P.; McDonald, L.; Utterback, T.; Zalewski, C.; Ma.; Santh, H.O.; Venter, J.C.; Fraser, C.M.
S.; Smith, H.O.; Venter, J.C.; Fraser, C.M.
A;Title: Genome sequence of the radioresistant bacterium Deinococcus radiodurans R1.
A;Reference number: A75250; MUID:20036896
A;Accession: D75368
A;Accession: D75368
A;Accession: D7548 < WHI>
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A;Residues: 1-333 <SIL>
A;Cross-references: GB.M38343; .NID:g169628; PIDN:AAA63456.1; PID:g169629
A;Orte: the authors translated the codon GGG for residue 296 as Ser
C;Superfamily: grass pollen allergen IX
C;Keywords: pollen
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100.0%; Pred. No. 40;
ive 0; Mismatches
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A; Experimental source: strain Rl
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Best Local Similarity 100.1
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Matches 7; Conservative
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237 SPTAEGG 243
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A;Map position: 1
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Rishirai, M.; Hirakawa, H.; Kimoto, M.; Tabuchi, M.; Kishi, F.; Ouchi, K.; Shiba, T.; Nucleic Acids Res. 28, 2311-2314, 2000
A;Title: Comparison of whole genome sequences of chlamydia pneumoniae J138.
A;Reference number: A86491; MUID:20330349
A;Accession: D86596
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A;Gene: clpX
C;Superfamily: heat shock protein hslU; FtsH/SEC18/CDC48-type ATP-binding domain homo
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A;Experimental source: strain AR39, HL cells
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C;Superfamily: heat shock protein hslU; FtsH/SEC18/CDC48-type ATP-binding domain homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         R;Kalman, S.; Mitchell, W.; Marathe, R.; Lammel, C.; Fan, J.; Olinger, L.; Grimwood,
Nature Genet. 21, 385-389, 1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATP-dependent Clp proteinase, ATP-binding regulatory chain ClpX CP1023 [imported] C;Species: Chlamydophila pneumoniae, Chlamydia pneumoniae, Cc;Date: 23-Apr.1999 #sequence_revision 23-Apr.1999 #text_change 11-May-2000 C;Accession: F72028; B81512
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A;Molecule type: DNA
A;Molecule type: DNA
A;Residues: 1-421 csro>
A;Cross-references: GB:BA000008; NID:g8979220; PIDN:BAA99054.1; GSPDB:GN00142
A;Experimental source: strain J138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        C:Species: Chlamydophila pneumoniae, Chlamydia pneumoniae
C:Date: 02-Mar-2001 #sequence_revision 02-Mar-2001 #text_change 23-Mar-2001
C;Accession: D86596
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                                                                                                                A;Gene: dfp
C;Superfamily: pantothenate metabolism flavoprotein dfp
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100.0%; Pred. No. 48;
tive 0; Mismatches
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100.0%; Pred. No. 49;
live 0; Mismatches
                                         A; Experimental source: strain H37Rv
                                                                                                                                                                                                                                                                                                                                                                     7; Conservative
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Matches 7; Conserv
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Best Local Similarity
Matches 7; Conserv
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263 LADAVSK 269
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                                                                                                                                                                                                                                                                                                                                                                                                                                            77 LADAVSK 83
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By 10899

By 10899

By 10899

By 10899

By 20899

By 20899

By 20896

By 20896

By 20806

By 20
A; Accession: A71181
A; Status: preliminary; nucleic acid sequence not shown; translation not shown
A; Molecule type: DNA
A; Residues: 1-380 < KAM>
A; Residues: 1-380 < KAM>
A; Residues: stain OT3
A; Experimental source: strain OT3
A; Experimental source strain OT3
A; Note: this accession replaces an interim accession for a sequence replaced by GenBank
C; Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     J.D.; Dodson, R.J.;
T.; Zalewski, C.; Ma
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           probable cation exchanger - Deinococcus radiodurans (strain R1)
C;Species: Deinococcus radiodurans
C;Species: Deinococcus radiodurans
C;Daces Jone - 1999 #sequence_revision 03-Dec-1999 #text_change 17-Mar-2000
C;Accession: H7559
R;White, O.; Eisen, J.A.; Heidelberg, J.F.; Hickey, E.K.; Peterson, J.D.; Dodson, R.J. M.; Smatchevan, J.J.; Lam, P.; McDonald, L.; Utterback, T.; Zalewski, C.; S.; Smith, H.O.; Venter, J.C.; Fraser, C.M.
A;Title: Genome sequence of the radioresistant bacterium Deinococcus radiodurans R1.
A;Accession: H7557
A;Acces
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100.0%; Pred. No. 45;
ive 0; Mismatches
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Pred. No.
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C;Superfamily: Ca2+/H+-exchanging protein
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C;Superfamily: aconitate hydratase
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Best Local Similarity 100.
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Matches 7; Conserv
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A; Residues: 1-418 <COL>
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| 129 VAVVLGL 135
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RESULT 30
H86078
PTS system, fructose-like enzyme IIBC component [imported] - Escherichia coli (strain Ol C; Species: Escherichia coli
C;Species: Escherichia coli
C;Date:,16-Feb-2001 #sequence_revision 16-Feb-2001 #text_change 31-Mar-2001
C;Accession: H86078
R;Perra, N.T.; Plunkett III, G.; Burland, V.; Mau, B.; Glasner, J.D.; Rose, D.J.; Mayhew, Iller, L.; Grotbock, E.J.; Davis, N.W.; Lim, A.; Dimalanta, E.; Potamousls, K.; Apodaca, A;Title: Genome sequence of enterchemorrhagic Escherichia coli 0157:H7.
A;Reference number: A65480; MUID:21074935; PMID:11206551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-481 <STO>
A;Cross-references: GB:AE005174; NID:g12518794; PIDN:AAG59092.1; GSPDB:GN00145; UWGP:254
A;Experimental source: strain 0157:H7, substrain EDL933
C;Genetics:
A;Gene: frvB
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                                                            Gaps
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     Length 421;
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     DB 2;
Ouery Match 5.1%; Score 7; DB 2, Best Local Similarity 100.0%; Pred. No. 49; Matches 7; Conservative 0; Mismatches
                                                                                                       52 TTANVPP 58
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221 TTANVPP 227
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Search completed: November 19, 2001, 13:10:05 Job time: 65 sec

15 AVVLGLA 21 ||||||| 235 AVVLGLA 241

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### STIC-ILL

From: Sent:

To:

Huynh, Phuong N. Monday, November 05, 2001 2:46 PM STIC-ILL

Subject:

RE: 09/696,169

Please deliver the following:

Int Arch Allergy Immunol 108: 55-?; 1995

J Immunol 151: 4773-?; 1993

J immunol 163(10): 5489-96; 1999>

J Immunol 162(4): 2406-14;

Thanks,

Neon Art unit 1644 Mail CM1, 9E12 Office CM1, 9D06 Tel 308-4844

OR180.56

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                                                                                                                                                                                                 This invention describes a novel method of desensitizing a patient to a polypeptide allergen and comprises administering to the patient a peptide derived from the allergen where restriction to a MHC Class II molecule possessed by the patient can be demonstrated for the peptide and the peptide is able to induce a late phase response in an individual who possesses the MHC class II molecule. The methods can be used for desensitising patients to allergens present in e.g. grass, tree and weed including ragweed) pollens, fungl and moulds, foods, stinging insects, the chiromidae (non-biting midges), spiders and mites, housefly, fruit ily, sheep blow fly, screw worm fly, grain weevil, salkworm, honeybee, non-biting midge larvae, bee moth larvae, mealworm, cockroach, larvae of Tenibrio molitor beetle, mammals such as cat, dog, horse, cow, pig, sheep, rabbit, rat, guinea pig, mice or gerbil. They can also be used to produce immunological vaccines which may be used to prevent and/or treat conditions involving hypersensitivity to allergens. This sequence represents a Phleum sp. (Timothy grass) Phl p 6 allergen.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61 KYKTFEAAFTVSSKRNLADAVSKAPQLVPKLDEVYNAAYNAADHAAPEDKYEAFVLHFSE 120
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100.0%; Pred. No. 2.2e-131;
ive 0; Mismatches 0;
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                                                                                                               Desensitizing patients to polypeptide allergens
                                                                                                                                                           Example 6; Page 66; 117pp; English.
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                                                                 WPI; 1999-458255/38
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                     Larche M;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            138 AA;
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09-JAN-1998;
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This invention describes a novel method of desensitizing a patient to a polypeptide allergen and comprises administering to the patient a peptide derived from the allergen where restriction to a MHC Class II molecule possessed by the patient can be demonstrated for the peptide and the peptide is able to induce a late phase response in an individual who possesses the MHC class II molecule. The methods can be used for desensitising patients to allergens present in e.g. grass, tree and weed including radweed) pollens, fungl and moulds, foods, stinging insects, the chiromidae (non-biting midges), spiders and mites, housefly, fruit in, screw worm fly, grain weevil, slikworm, honeybee, non-biting midge larvae, bee moth larvae, mealworm, cockroach, larvae of Tenibrio molitor beetle, mammals such as cat, dog, horse, cow, pig, sheep, rabbit, rat, guinea pig, mice or gerbil. They can also be used to produce immunological vaccines which may be used to prevent and/or treat conditions involving hypersensitivity to allergens. This sequence
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(IMCO-) IMPERIAL COLLEGE INNOVATIONS LTD.
                                                                                                                                                                                                                                                                         Example 6; Page 65-66; 117pp; English.
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Matches 80; Conservative
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4.5
Compugen Ltd
 GenCore version
Copyright (c) 1993 - 2000
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sw model protein search, using OM protein - November 19, 2001, 13:08:54; Search time 21.15 Seconds (without alignments) 395.561 Million cell updates/sec Run on:

CAA76556 Title: Perfect score:

138 1 MAAHKFMVAMFLAVAVVLGL.....SEALHIIAGTPEVHAVKPGA 138 Sequence:

Scoring table:

OLIGO Gapop 60.0 , Gapext 60.0

412676 seqs, 60623988 residues Searched:

0 Word size

412676 Total number of hits satisfying chosen parameters:

length: 0 length: 2000000000 Minimum DB seq Maximum DB seq

Post-processing: Listing first 50 summaries

Database :

/SIDSB/gcgdata/geneseq/geneseqp/AA1980.DAT:\*
/SIDSB/gcgdata/geneseq/geneseqp/AA1981.DAT:\*
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

					SUMMARIES	
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Result No.	Score	Ouery Match	Query Match Length DB	DB	ID	Description
-	138	100.0	138	20	AAY25640	Dhleum an allerde
2	80	58.0	80	20	AAY25638	phlem sp. allerge
ım	80	58.0		202	AAY25641	Phleum sp. allerge
4	80	58.0	138	20	AAY25636	Phleum sp. allerge
Ŋ	57	41.3		20	AAY25637	Phleum sp. allerge
9	57	41.3		20	AAY25639	Phleum sp. allerge
7	15	10.9		19	AAW76447	Graminae pollen al
8	15	10.9		19	AAW76446	Graminae pollen al
6	15	10.9		19	AAW76448	Graminae pollen al
10	15	10.9		19	AAW76442	Graminae pollen al
11	15	10.9		19	AAW76444	Graminae pollen al

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# ALIGNMENTS

Phleum sp. allergen Phl p 6 protein fragment #5. AAY25640 standard; protein; 138 AA. 30-SEP-1999 (first entry) AAY25640; RESULT AAY25640 

Major histocompatibility complex; class II; desensitising; human; allergen; grass; tree; weed; pollen; fung1; mould; food; insect; sting; chiromidae; spider; mite; housefly; fruit fly; sheep blow fly; honeybee; screw worm fly; grain weevil; silkworm; bee moth; larvae; mealworm; cat; cockroach; beetle; dog; horse; cow; plg; sheep; rabbit; rat; guinea pig; mice; garbil; vaccine; treatment; prevention; hypersensitivity.

Phleum sp.

WO9934826-A1.

99WO-GB00080 11-JAN-1999;

15-JUL-1999

98GB-0020474 98GB-0000445 21-SEP-1998; 09-JAN-1998; (IMCO-) IMPERIAL COLLEGE INNOVATIONS LTD.

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WPI; 1999-458255/38
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100.0%; Pred. No. 6e-73;
tive 0; Mismatches 0; Indels
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                                                         Desensitizing patients to polypeptide allergens
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                                                                              Example 6; Page 66; 117pp; English
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                                  WPI; 1999-458255/38
             Larche M;
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09-JAN-1998;
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This invention describes a novel method of desensitizing a patient to a polypeptide allergen and comprises administering to the patient a peptide defined from the allergen where restriction to a MHC Class II molecule possessed by the patient can be demonstrated for the peptide and the possesses the MHC class II molecule. The methods can be used for desensitising patients to allergens present in e.g. grass, tree and weed (including ragweed) pollens, fungl and moulds, foods, stinging insects, the chircomidae (non-biting midges), spiders and mites, housefly, fruit fly, sheep blow fly, scraw worm fly, grain weevil, silkworm, honeybee, non-biting midge larvae, bee moth larvae, mealworm, cockroach, larvae of Penibric mollitor beetle, mammals such as cat, dog, horse, cow, pig, sheep, rabbit, rat, guinea pig, mice or gerbil. They can also be used to produce immunological vaccines which may be used to prevent and/or treat conditions involving Mypersensitivity to allergens.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          represents a Phleum sp. (Timothy grass) Phl p 6 allergen.
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m p 6 protein fragment #2.
                                                                 Desensitizing patients to polypeptide allergens
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                                                                                                                                  Example 6; Page 65; 117pp; English
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98GB-0000445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              30-SEP-1999 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
WPI; 1999-458255/38
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Best Local Similarity
Matches 80; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Larche M;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WO9934826-A1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      21-SEP-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         09-JAN-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   15-JUL-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Phleum sp.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAY25637;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Kay AB,
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WPI; 1998-522170/45.
                                                                                                                                                                                                   106 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DE19713001-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          27-MAR-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   27-MAR-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-OCT-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             allergies
                                                                                                                                                                                                                                                                                                                                                                                                     AAW76447;
                                                                                                                                                                                                      Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Graminae
                                                                                                                                                                                                                                                                                        99
                                                                                                                                                                                                                                                                                                               34
                                                                                                                                                                                                                                                                                                                                                               AAW76447
                                                                                                                                                                                                                                                                                                                                                      RESULT
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                                                                                                                                   desensitising patients to allergens present in e.g. grass, tree and weed (including ragweed) pollens, fungi and moulds, foods, stinging insects, floculating ragweed) pollens, fungi and moulds, foods, stinging insects, fly, sheep blow fly, screw worm fly, grain weevil, silkworm, honeybee, non-biting midge larvae, bee moth larvae, mealworm, cockroach, larvae of Tenibrio molitor beetle, mammals such as cat, dog, horse, cow, pig, sheep, rabbit, rat, guinea pig, mice or gerbil. They can also be used to produce immunological vaccines which may be used to prevent and/or treat conditions involving hypersensitivity to allergens. This sequence represents a Phleum sp. (fimothy grass) Phl p 6 allergen.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Major histocompatibility complex; class II; desensitising; human; allergen; grass; tree; weed; pollen; fungi; mould; food; insect; sting; chiromidae; spider; mite; housefly; fruit fly; sheep blow fly; honeybee; screw worm fly; grain weevil; silkworm; bee moth; larvae; mealworm; cockroach; beetle; dog; horse; cow; pig; sheep; rabbit; rat; guinea pig; mice; gerbll; vaccine; treatment; prevention; hypersensitivity.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       This invention describes a novel method of desensitizing a patient to a
                                                             This invention describes a novel method of desensitizing a patient to a
                                                                      polypeptide allergen and comprises administering to the patient a peptiderived from the allergen where restriction to a MHC Class II molecule possessed by the patient can be demonstrated for the peptide and the peptide is able to induce a late phase response in an individual who possesses the MHC Class II molecule. The methods can be used for
                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                               82 SKAPQLVPKLDEVYNAAYNAADHAAPEDKYEAFVLHFSEALHIIAGTPEVHAVKPGA 138
                                                                                                                                                                                                                                                                                                                                                                             .
0
                                                                                                                                                                                                                                                                                                               Length 57;
                                                                                                                                                                                                                                                                                                                                       0; Indels
                                                                                                                                                                                                                                                                                                              Score 57; DB 20;
Pred. No. 4.3e-50;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Phleum sp. allergen Phl p 6 protein fragment #4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Desensitizing patients to polypeptide allergens
            Desensitizing patients to polypeptide allergens
                                                                                                                                                                                                                                                                                                                           100.0%; Pred. No. 4.3 iive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (IMCO-) IMPERIAL COLLEGE INNOVATIONS LTD.
                                     Example 6; Page 65; 117pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAY25639 standard; protein; 106 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Example 6; Page 66; 117pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  99WO-GB00080.
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98GB-0000445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (first entry)
                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity 100.
Matches 57; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WPI; 1999-458255/38
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Larche M;
                                                                                                                                                                                                                                                                          57 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                W09934826-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  11-JAN-1999;
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                                                                                                                                                                                                                                                                           Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAY25639;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Kay AB,
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polypeptide allergen and comprises administering to the patient a peptide derived from the allergen where restriction to a MHC Class II molecule possessed by the patient can be demonstrated for the peptide and the peptide is able to induce a late phase response in an individual who possesses the MHC class II molecule. The methods can be used for desensitising patients to allergens present in e.g. grass, tree and weed (including ragweed) pollens, fungi and moulds, foods, stinging insects, the chiromidae (non-biting midges), spiders and mites, housefly, fruit ifly, sheep blow fly, screw worm fly, grain weedil, slikworm, honeybee, non-biting midge larvae, bee moth larvae, mealworm, cockroach, larvae of renibrio molitor beetle, mammals such as cat, dog, horse, cow, pig, sheep, rabbit, rat, guinea pig, mice or gerbil. They can also be used to produce immunological vaccines which may be used to prevent and/or treat conditions involving hypersensitivity to allergens. This sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Pollen; allergen; Phl & 5b; IgE; antibody; grass; reactivity; T cell; epitope; immunotherapy; allergy; hyposensitisation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EAAFTVSSKRNLADAVSKAPQLVPKLDEVYNAAYNAADHAAPEDKYEAFVLHFSEAL 122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /note= "Wild-type Lys is replaced with Ala"
Misc-difference 50..51
/note= "Site of 128 amino acid deletion compared with wild-type sequence"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Modified recombinant allergens - useful for immuno-therapy of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /label= D49L
/note= "Wild-type Asp is replaced with Leu"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 106;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Graminae pollen allergen Phl p 5b protein variant DM2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Jaeger L;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         41.3%; Score 57; DB 20; L
100.0%; Pred. No. 7.5e-50;
iive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Fiebig H,
Stuewe H;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Location/Qualifiers
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Kahlert H, Mueller W, Schramm G,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAW76447 standard; protein; 137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        label- K50A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    97DE-1013001.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  97DE-1013001
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Best Local Similarity 100.0
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Gaps

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Indels

Example

8 × 0 0 0 0 0 0 0 0 0 0 × 8

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the modified grass pollen allergens with IgE antibodies while their reactivity with T cells is retained. The genes for the allergens are modified so that the encoded polypeptides have one or more amino acid substitutions, deletions and/or additions. The dominant T·cell epitopes of the allergens are not genetically altered. Such allergens have applications in the immunotherapy of allergies e.g. hyposensitisation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                This sequence is DM3, a variant of a natural pollen allergen which has a region deleted from amino acid 154 to amino acid 177 of the wild-type Phl p 5b protein represented in AAM76442. This allergen is used in a method which results in the reduction or elimination of reactivity of the modified grass pollen allergens with IgE antibodies while their reactivity with T cells is retained. The genes for the allergens are modified so that the encoded polypeptides have one or more amino acid substitutions, deletions and/or additions. The dominant T-cell epitopes of the allergens are not genetically altered. Such allergens have applications in the immunotherapy of allergies e.g. hyposensitisation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            antibody; grass; reactivity; T cell; hyposensitisation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /note= "Site of 25 amino acid deletion compared
with wild-type sequence"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Modified recombinant allergens - useful for immuno-therapy of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /label= A220T
/note= "Wild-type Ala is replaced with Thr"
Misc-difference 153..154
                                                                                                                                                                                                                  Length 182;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Graminae pollen allergen Phl p 5b protein variant DM3
                                                                                                                                                                                                                                                          ;
0
                                                                                                                                                                                                              Query Match 10.9%; Score 15; DB 19; 1
Best Local Similarity 100.0%; Pred. No. 2.6e-07;
Matches 15; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Fiebig H, Stuewe H;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                         AAW76448 standard; protein; 241 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mueller W, Schramm G,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Pollen; allergen; Phl p 5b; IgE; epitope; immunotherapy; allergy;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Cromwell O,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Example 3; Page 7; 31pp; German.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    97DE-1013001.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          97DE-1013001
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                                                                                                                                                                                                                                                                                               29 GKATTEEQKLIEDIN 43
                                                                                                                                                                                                                                                                                                                      WPI; 1998-522170/45
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Bufe A,
                                                                                                                                                    182 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DE19713001-A1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Becker W,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        allergies
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAW76448;
                                                                                                                                                    Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Graminae
                                                                                                                                                                                                                                                                                                                                   18
                                                                                                                                                                                                                                                                                                                                                                                                                      AAW76448
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                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                             ó
                                      This sequence is DM2, a variant of a natural pollen allergen which has a region deleted from amino acid 51 to amino acid 178 of the wild-type Phl p 5b protein represented in AAW76442. This allergen is used in a method which results in the reduction or elimination of reactivity of the modified grass pollen allergens with IgE antibodies while their reactivity with T cells is retained. The genes for the allergens are modified so that the encoded polypetides have one or more amino acid substitutions, deletions and/or additions. The dominant T-cell epitopes of the allergens are not genetically altered. Such allergens have applications in the immunotherapy of allergies e.g. hyposensitisation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          This sequence is DM1, a variant of a natural pollen allergen which has a region deleted from amino acid 50 to amino acid 132 of the wild-type Ph1 p 5b protein represented in AAM76442. This allergen is used in a method which results in the reduction or elimination of reactivity of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Pollen; allergen; Phl p 5b; IgE; antibody; grass; reactivity; T cell; epitope; immunotherapy; allergy; hyposensitisation.
                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          "Site of 83 amino acid deletion compared with wild-type sequence"
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/note= "Wild-type Asp is replaced with Leu"
Misc-difference 49.50
/note= "Site of 83 amino acid deletion compa
                                                                                                                                                                                                                                                                                                                                     Length 137;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Modified recombinant allergens - useful for immuno-therapy
                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Graminae pollen allergen Phl p 5b protein variant DM1
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                                                                                                                                                                                                                                                                                                                                   DB 19; Ler
2e-07;
hes 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Fiebig H, Stuewe H;
                                                                                                                                                                                                                                                                                                                                                                           Mismatches
                                                                                                                                                                                                                                                                                                                                   Score 15;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAW76446 standard; protein; 182 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  omwell O, F
Schramm G,
                                                                                                                                                                                                                                                                                                                                     10.50.
100.0%; Fix
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Example 3; Page 6; 31pp; German.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Bufe A, Cromwell
Mueller W, Schram
                                                                                                                                                                                                                                                                                                                                   10.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         97DE-1013001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 97DE-1013001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (MERE ) MERCK PATENT GMBH.
                                                                                                                                                                                                                                                                                                                                 Ouery Match 10.9
Best Local Similarity 100.
Matches 15; Conservative
3; Page 6; 31pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                         GKATTEEQKLIEDIN 43
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WPI; 1998-522170/45
                                                                                                                                                                                                                                                                       137 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DE19713001-A1
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11-DEC-1998

AAW76446;

RESULT AAW76446

Sequence

29 18

οy g Synthetic

Graminae

27-MAR-1997; 27-MAR-1997;

Becker W, Kahlert H,

allergies

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XX

g

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This sequence is PM2, a variant of a natural pollen allergen constructed from the wild-type Phl p 5b sequence represented in AAM76442, isolated from Graminae species. This allergen is used in a method which results in the reduction or elimination of reactivity of the modified grass pollen allergens with IgE antibodies while their reactivity with T cells is retained. The genes for the allergens are modified so that the encoded apolypeptides have one or more amino acid substitutions, deletions and/or additions. The dominant T-cell epitopes of the allergens are not genetically altered. Such allergens have applications in the immunotherapy of allergies e.g. hyposensitisation.
                                                                                                                 Pollen; allergen; Phl p 5b; IgE; antibody; grass; reactivity; T cell; epitope; immunotherapy; allergy; hyposensitisation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Modified recombinant allergens - useful for immuno-therapy of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 15; DB 19; Length 26;5;
Pred. No. 3.6e-07;
0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                           /label= K50A
/note= "Wild-type Lys is replaced by Ala"
                                                                                                                                                                                                                                                                         /note= "Wild-type Asp is replaced by Leu"
                                                                                 Graminae pollen allergen Phl p 5b protein variant PM2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Graminae pollen allergen Phl p 5b protein variant PM3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Fiebig H, Stuewe H;
                                                                                                                                                                                                                         Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAW76445 standard; protein; 265 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Bufe A, Cromwell O,
Mueller W, Schramm G,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      10.0%; Pit
100.0%; Pit
0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Example 2; Page 5; 31pp; German.
                                                                                                                                                                                                                                                         /label= D49L
                                                                                                                                                                                                                                                                                                                                                                                                                                  97DE-1013001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  97DE-1013001
                                                11-DEC-1998 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               11-DEC-1998 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (MERE ) MERCK PATENT GMBH.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          43
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GKATTEEQKLIEDIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI; 1998-522170/45.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Best Local Similarity
Matches 15; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  265 AA;
                                                                                                                                                                                                                                         Misc-difference
                                                                                                                                                                                                                                                                                          Misc-difference
                                                                                                                                                                                                                                                                                                                                                              DE19713001-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                  27-MAR-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    27-MAR-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Kahlert H,
                                                                                                                                                                                       Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Becker W,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              allergies
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAW76445;
              AAW76444;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Seguence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
                                                                                                                                                                       Sraminae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAW76445
Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δ
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                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         This sequence is a natural pollen allergen, Phl p 5b, isolated from Graminae species. This allergen can be modified and the reactivity of the modified allergens with 1gE antibodies to grass pollen allergens is reduced or eliminated while their reactivity with T cells is retained. The genes for the allergens are modified so that the encoded polypeptides have one or more amino acid substitutions, deletions and/or additions. The dominant T cell epitopes of the allergens are not genetically altered. Such allergens have applications in the immunotherapy of allergies e.g. hyposensitisation.
                                                                                                                                                                                                                                                                                                                                                                                              Pollen; allergen; Phl.p 5b; IgE; antibody; grass; reactivity; T cell; epitope; immunotherapy; allergy; hyposensitisation.
                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Modified recombinant allergens - useful for immuno-therapy of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 265;
                                                                Length 241;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ;
0
                                                            10.9%; Score 15; DB 19; I
100.0%; Pred. No. 3.3e-07;
ive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 15; DB 19;
Pred. No. 3.6e-07;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Fiebig H, Stuewe H;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mismatches
                                                                                                                                                                                                                                                                                                                                                              Graminae pollen allergen Phl p 5b protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAW76444 standard; protein; 265 AA.
                                                                                                                                                                                                                                                       AAW76442 standard; protein; 265 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Bufe A, Cromwell O, F
Mueller W, Schramm G,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             10.50,
100.08; Pre
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Example 1; Page 3; 31pp; German.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       97DE-1013001.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          10.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     97DE-1013001
                                                                                                                                                                                                                                                                                                                         11-DEC-1998 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (MERE ) MERCK PATENT GMBH.
                                                                              Best Local Similarity 100.
Matches 15; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match 10.5
Best Local Similarity 100
Matches 15; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           29 GKATTEEQKLIEDIN 43
                                                                                                                                   43
                                                                                                                                                     29 GKATTEEQKLIEDIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 1998-522170/45
            241 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DE19713001-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       27-MAR-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       27-MAR-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Becker W, F
Kahlert H,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-OCT-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                allergies
              Sequence
                                                                Query Match
                                                                                                                                                                                                                                                                                          AAW76442;
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Graminae.
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Gaps

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RESUL\* 11 AAW76444 ID AAW764

Pp ò

Synthetic

Graminae

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(IMCO-) IMPERIAL COLLEGE INNOVATIONS LTD.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAY25628 standard; protein; 280 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                10.9%; Scor.
100.0%; Pre
0;
                                                                                      99WO-GB00080
                                                                                                                          98GB-0020474
                                                                                                                                             98GB-0000445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      30-SEP-1999 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity 100.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     29 GKATTEEOKLIEDIN 43
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WPI; 1999-458255/38
                                                                                                                                                                                                                    Larche M;
           W09934826-A1
                                                                                      11-JAN-1999;
                                                                                                                          21-SEP-1998;
                                                                                                                                           09-JAN-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WO9934826-A1
                                                    15-JUL-1999
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAY25628;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence
                                                                                                                                                                                                                  Kay AB,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAY25628
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            This sequence is PM3, a variant of a natural pollen allergen constructed from the wild-type Phl p 5b sequence represented in AAW76442, isolated from Graminae species. This allergen is used in a method which results in the reduction or elimination of reactivity of the modified grass pollen allergens with IgE antibodies while their reactivity with T cells is retained. The genes for the allergens are modified so that the encoded polypeptides have one or more amino acid substitutions, deletions and/or additions. The dominant T-cell epitopes of the allergens are not genetically altered. Such allergens have applications in the immunotherapy of allergies e.g. hyposensitisation.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Major histocompatibility complex; class II; desensitising; human; allergen; grass; tree; weed; pollen; fingi; mould; food; insect; sting; chiromidae; spider; mite; housefly; fruit fly; sheep blow fly; honeybee; screw worm fly; grain weevil; silkworm; bee moth; larvae; mealworm; cat; cockroach; beetle; dog; horse; cow; pig; sheep; rabbit; rat; guinea pig; mice; gerbil; vaccine; treatment; prevention; hypersensitivity.
         Pollen; allergen; Phl p 5b; IgE; antibody; grass; reactivity; T cell; epitope; immunotherapy; allergy; hyposensitisation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Modified recombinant allergens - useful for immuno-therapy of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 265;
                                                                                                                                                          /label= A13C
/note= "Wild-type Ala is replaced by Cys"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     10.9%; Score 15; DB 19; Length 26
100.0%; Pred. No. 3.6e-07;
Live 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                   Jaeger L;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Phleum sp. allergen Phl p 5 protein fragment #5
                                                                                                                                                                                                                                                                                                                                                                                               Fiebig H, Stuewe H;
                                                                                                                        Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAY25621 standard; protein; 265 AA.
                                                                                                                                                                                                                                                                                                                                                                                               Bufe A, Cromwell O, F
Mueller W, Schramm G,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Example 2; Page 6; 31pp; German.
                                                                                                                                                                                                                                                                                      97DE-1013001
                                                                                                                                                                                                                                                                                                                        97DE-1013001
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                                                                                                                                                                                                                                                                                                                                                           (MERE ) MERCK PATENT GMBH.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            29 GKATTEEQKLIEDIN 43
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WPI; 1998-522170/45.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Best Local Similarity
Matches 15; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    265 AA;
                                                                                                                                       Misc-difference
                                                                                                                                                                                                              DE19713001-A1
                                                                                                                                                                                                                                                                                                                        27-MAR-1997;
                                                                                                                                                                                                                                                                                    27-MAR-1997;
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Becker W, Kahlert H,

allergies

Sequence

Query Match

ŏ a Phleum sp

AAY25621;

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This invention describes a novel method of desensitizing a patient to a polypeptide allergen and comprises administering to the patient a peptide derived from the allergen where restriction to a MHC Class II molecule possessed by the patient can be demonstrated for the peptide and the peptide is able to induce a late phase response in an individual who possesses the MHC Class II molecule. The methods can be used for desensitising patients to allergens present in e.g. grass, tree and weed including ragweed) pollens, fungi and moulds, foods, stinging insects, the chiromidae (non-biting midges), spiders and mites, housefly, fruit if, sheep blow fly, screw worm fly, grain weevil, slikworm, honeybee, non-biting midge larvae, bee moth larvae, mealworm, cockroach, larvae of renibrio molitor beetle, mammals such as cat, dog, horse, cow, pig, sheep, rabbit, rat, guinea pig, mice or gerbil. They can also be used to produce immunological vaccines which may be used to prevent and/or treat conditions involving hypersensituity to allergens. This sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Major histocompatibility complex; class II; desensitising; human; allergen; grass; tree; weed; pollen; fungi; mould; food; insect; sting; chiromidae; spider; mite; housefly; fruit fly; sheep blow fly; honeybee; screw worm fly; grain weevil; silkworm; bee moth; larvae; mealworm; cat; cockroach; beetle; dog; horse; cow; pig; sheep; rabbit; rat; guinea pig; mice; gerbil; vaccine; treatment; prevention; hypersensitivity.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 15; DB 20; Length 265;
Pred. No. 3.6e-07;
0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Phleum sp. allergen Phl p 5b protein fragment #3.
Desensitizing patients to polypeptide allergens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               99WO-GB00080
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Kay AB,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAY25627
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              qq
  ò
                                                                                                                                                                                                                                                                                                             This invention describes a novel method of desensitizing a patient to a polypeptide allergen and comprises administering to the patient a peptide derived from the allergen where restriction to a MHC Class II molecule possessed by the patient can be demonstrated for the peptide and the peptide is able to induce a late phase response in an individual who possesses the MHC class II molecule. The methods can be used for desensitising patients to allergens present in e.g. grass, tree and weed (including ragweed) pollens, fungi and moulds, foods, stinging insects, the chiromidae (non-biting midges), spiders and mites, housefly, fruit fly, sheep blow fly, screw worm fly, grain weevil, silkworm, honeybee, non-biting midge larvae, bee moth larvae, mealworm, cockroach, larvae of renibrio molitor beetle, mammals such as cat, dog, horse, cow, pig, sheep, rabbit, rat, guinea pig, mice or gerbil. They can also be used to produce immunological vaccines which may be used to prevent and/or treat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Major histocompatibility complex; class II; desensitising; human; allergen; grass; tree; weed; pollen; fungi; mould; food; insect; sting; chiromidae; spider; mite; housefly; fruit fly; sheep blow fly; honeybee; screw worm fly; grain weevil; silkworm; bee moth; larvae; mealworm; cockroach; beetle; dog; horse; cow; pig; sheep; rabbit; rat; guinea pig; mice; gerbll; vaccine; treatment; prevention; hypersensitivity.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              10.9%; Score 15; DB 20; Length 280; 100.0%; Pred. No. 3.8e-07; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 represents a Phleum sp. (Timothy grass) Phl p 5b allergen.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Phleum sp. allergen Phl p 5b protein fragment #4.
                                                                                                                                                                                                                                Desensitizing patients to polypeptide allergens
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                                                                                       (IMCO-) IMPERIAL COLLEGE INNOVATIONS LTD
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                                                                                                                                                                                                                                                                        Example 6; Page 63; 117pp; English
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Matches 15; Conservative
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                                                                                                                                    Larche M;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              280 AA;
                     21-SEP-1998;
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09-JAN-1998;
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                                                                                                                                        Kay AB,
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This invention describes a novel method of desensitizing a patient to a polypeptide allergen and comprises administering to the patient a peptide derived from the allergen where restriction to a MHC Class II molecule possessed by the patient can be demonstrated for the peptide and the peptide is able to induce a late phase response in an individual who possesses the MHC class II molecule. The methods can be used for desensitising patients to allergens present in e.g. grass, tree and weed including ragweed) pollens, fungl and moulds, foods, stinging insects, the chiromidae (non-biting midges), spiders and mites, housefly, fruit ifly, sheep blow fly, szrew worm fly, grain weed,1, slikworm, horeybee, non-biting midge larvae, bee moth larvae, mealworm, cockroach, larvae of renibrio molitor beetle, mammals such as cat, dog, horse, cow, pig, sheep, rabbit, rat, guinea pig, mice or gerbil. They can also be used to produce immunological vaccines which may be used to prevent and/or treat conditions involving hypersensitivity to allergens. This sequence
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                                                                     Desensitizing patients to polypeptide allergens
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                                                                                                                                       Example 6; Page 64; 117pp; English
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WPI; 1999-458255/38.
WPI; 1999-458255/38
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Kay AB,
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                                                                                                                                                                                    polypeptide allergen and comprises administering to the patient a peptide derived from the allergen and comprises administering to the patient a peptide derived from the allergen where restriction to a MHC Class II molecule possessed by the patient can be demonstrated for the peptide and the peptide is able to induce a late phase response in an individual who possesses the MHC Class II molecule. The methods can be used for desensitising patients to allergens present in e.g. grass, tree and weed including ragweed) pollens, fungi and moulds, foods, stinging insects, the chiromidae (non-biting midges), spiders and mites, housefly, fruit ifly, sheep blow fly, screw worm fly, grain weevil, silkworm, honeybee, non-biting midge larvae, bee moth larvae, mealworm, cockroach, larvae of renibrio molltor beetle, mammals such as cat, dog, horse, cow, pig, sheep, rabbit, rat, guinea pig, mice or gerbil. They can also be used to produce immunological vaccines which may be used to prevent and/or treat conditions involving hypersensitivity to allergens. This sequence represents a Phleum sp. (Timothy grass) Phl p 5 allergen.
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                                                                                                                                                invention describes a novel method of desensitizing a patient to a
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Example 6; Page 63; 117pp; English.
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Matches 15; Conservative
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This invention describes a novel method of desensitizing a patient to a bolypeptide alleargen and comprises administering to the patient a peptide derived from the alleargen where restriction to a MHC Class II molecule possessed by the patient can be demonstrated for the peptide and the

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peptide is able to induce a late phase response in an individual who possesses the MHC Class II molecule. The methods can be used for desensitising patients to allergens present in e.g. grass, tree and weed (including ragweed) pollens, fungi and moulds, foods, stinging insects, the chiromidae (non-biting midges), spiders and mites, housefly, fruit ifly, sheep blow fly, screw worm fly, grain weevil, silkworm, honeybee, non-biting midge larvae, bee moth larvae, mealworm, cockroach, larvae of Tenibrio molitor beetle, mammals such as cat, dog, horse, cow, pig, sheep, rabbit, rat, guinea pig, mice or gerbil. They can also be used to produce immunological vaccines which may be used to prevent and/or treat conditions involving hypersensitivity to allergens. This sequence represents a Phleum sp. (Timothy grass) Phl p 5b allergen.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Major histocompatibility complex; class II; desensitising; human; allergen; grass; tree; weed; pollen; fungi; mould; food; insect; sting; chiromidae; spider; mite; housefly; fruit fly; sheep blow fly; honeybee; screw worm fly; grain weevil; silkworm; bee moth; larvae; mealworm; cat; cockroach; beetle; dog; horse; cow; pig; sheep; rabbit; rat; guinea pig; mice; gerbil; vaccine; treatment; prevention; hypersensitivity.
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                                                                                                                                                                                                                                                                                                                                                                          10.9%; Score 15; DB 20; Length 284; 100.0%; Pred. No. 3.9e-07;
                                                                                                                                                                                                                                                                                                                                                                                                                        0; Indels
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Mismatches
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                                                                                                                                                                                                                                                                                                                                                                             10.5.
100.0%; Pie
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                                                                                                                                                                                                                                                                                                                                                                                                                        15; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     29 GKATTEEQKLIEDIN 43
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WPI; 1999-458255/38
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                                                                                                                                                                                                                                                                                                            Sequence
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This invention describes a novel method of desensitizing a patient to a polypeptide allergen and comprises administering to the patient a peptide derived from the allergen where restriction to a MHC Class II molecule possessed by the patient can be demonstrated for the peptide and the peptide is able to induce a late phase response in an individual who possesses the MHC class II molecule. The methods can be used for desensitising patients to allergens present in e.g. grass, tree and weed including ragweed) pollens, fungi and moulds, foods, stinging insects, the chiromidae (non-biting midges), spiders and mites, housefly, fruit if, sheep blow fly, screw worm fly, grain weevil, slitworm, honeybee, non-biting midge larvae, bee moth larvae, mealworm, cockroach, larvae of renibrio molitor beetle, mammals such as cat, dog, horse, cow, pig, sheep, rabbit, rat, guinea pig, mice or gerbil. They can also be used to produce immunological vaccines which may be used to prevent and/or treat conditions involving hypersensitivity to allergens. This sequence represents a Phleum sp. (Timothy grass) Phl p 5 allergen.
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non-biting midge larvae, bee moth larvae, mealworm, cockroach, larvae of Tenibrio molitor beetle, mammals such as cat, dog, horse, cow, pig, sheep, rabbit, rat, guinea pig, mice or gerbil. They can also be used to produce immunological vaccines which may be used to produce immunological vaccines which may be used to prevent and/or treat conditions involving hypersensitivity to allergens. This sequence represents a Phleum sp. (Timothy grass) Phl p 5b allergen.
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                                                                                                                                                                                                                                                                                                                                                                           Score 15; DB 20; Length 284;
Pred. No. 3.9e-07;
                                                                                                                                                                                                                                                                                                                                                                                                                                                      0; Indels
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                                                                                                                                                                                                                                                                                                                                                                                                  100.0%; Preu. ...
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98GB-0000445
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Matches 15; Conservative
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This invention describes a novel method of desensitizing a patient to a polypeptide allergen and comprises administering to the patient a peptide derived from the allergen where restriction to a MHC Class II molecule possessed by the patient can be demonstrated for the peptide and the peptide is able to induce a late phase response in an individual who possesses the MHC class II molecule. The methods can be used for desensitising patients to allergens present in e.g. grass, tree and weed including ragweed) pollens, fungl and moulds, foods, stinging insects, the chiromidae (non-biting midges), spiders and mites, housefly, fruit if, sheep blow fly, screw worm fly, grain weevil, slikworm, honeybee, non-biting midge larvae, bee moth larvae, mealworm, cockroach, larvae of renibrio molitor beetle, mammals such as cat, dog, horse, cow, pig, sheep, rabbit, rat, guinea pig, mice or gerbil. They can also be used to produce immunological vaccines which may be used to prevent and/or treat conditions involving hypersensitiuty to allergens. This sequence
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                                                               DB 20; I
                                                                                                                                                                                                                                                                                                                                                                        Phleum sp. allergen Phl p 5 protein fragment #4.
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                                                                                                     0; Mismatches
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                                                                  Score 15;
Pred. No.
                                                                                                                                                                                                                                                               AAY25620 standard; protein; 290 AA
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                                                                  10.9%;
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                                                         Query Match
Best Local Similarity 100.
                                                                                                                                         29 GKATTEEQKLIEDIN 43
                                                                                                                                                                          43 gkatteegkliedin 57
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Best Local Similarity
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                287 AA;
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09-JAN-1998;
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                                                                                                                                                                                                 Major histocompatibility complex; class II; desensitising; human; allergen; grass; tree; weed; pollen; fungi; mould; food; insect; sting; chiromidae; spider; mite; housefly; fruit fly; sheep blow fly; honeybee; screw worm fly; grain weevil; silkworm; bee moth; larvae; mealworm; cat; cockroach; beetle; dog; horse, cow; pig; sheep; rabbit; rat; guinea pig; mice; gerbli; vaccine; treatment; prevention; hypersensitivity.
  Gaps
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  Indels
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                                                                                                                                                                             Phleum sp. allergen Phl p 5 protein fragment #6.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Desensitizing patients to polypeptide allergens
 Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                   (IMCO-) IMPERIAL COLLEGE INNOVATIONS LTD.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Example 6; Page 61; 117pp; English.
                                                                                                      AAY25622 standard; protein; 295 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           10.9%,
100.0%; Pre
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0
                                                                                                                                                                                                                                                                                                                                                          99WO-GB00080.
                                                                                                                                                                                                                                                                                                                                                                                98GB-0020474
98GB-0000445
                                                                                                                                                     (first entry)
 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Local Similarity 100 les 15; Conservative
                        GKATTEEQKLIEDIN 43
                                    WPI; 1999-458255/38
                                                                                                                                                                                                                                                                                                                                                                                                                                          Larche M;
                                                                                                                                                                                                                                                                                                           W09934826-A1
                                                                                                                                                                                                                                                                                                                                                        11-JAN-1999;
                                                                                                                                                                                                                                                                                                                                                                                21-SEP-1998;
09-JAN-1998;
                                                                                                                                                     30-SEP-1999
                                                                                                                                                                                                                                                                                                                                  15-JUL-1999
15;
                                                                                                                                                                                                                                                                                    Phleum sp.
                                                                                                                             AAY25622;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                         Kay AB,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Best_Loca
Matches
                       29
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                                                                                                                                                                                      Pollen; allergen; Phl p 5b; IgE; antibody; grass; reactivity; T cell; epitope; immunotherapy; allergy; hyposensitisation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Modified recombinant allergens - useful for immuno-therapy of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              This sequence is PM1, a variant of a natural pollen allergen,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 265;
                                                                                                                                                                                                                                                                                                                                                /label= N32D
/note= "Wild-type Asn is replaced by Asp"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /note= "Wild-type Lys is replaced by Ala"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                        Graminae pollen allergen Phl p 5b protein variant PM1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Jaeger L;
                                                                                                                                                                                                                                                                                                                                                                                                                                                    'note= "Wild-type Asp is replaced by
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 14; DB 19;
Pred. No. 3.7e-06;
0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Stuewe H;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Fiebig H,
                                                                                                                                                                                                                                                                                                       Location/Qualifiers
AAW76443 standard; protein; 265 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Bufe A, Cromwell O, F
Mueller W, Schramm G,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAW76455 standard; peptide; 12 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     100.08; Fit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Example 2; Page 5; 31pp; German.
                                                                                                                                                                                                                                                                                                                                                                                                                            /label= D49L
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /label= K50A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               97DE-1013001.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                10.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   97DE-1013001
                                                                                            (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (MERE ) MERCK PATENT GMBH.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Best Local Similarity 100.
Matches 14; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          29 GKATTEEQKLIEDI 42
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI; 1998-522170/45.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Misc-difference 49
                                                                                                                                                                                                                                                                                                                               Misc-difference 32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              265 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DE19713001-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               27-MAR-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 27-MAR-1997;
                                                                                          11-DEC-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-OCT-1998.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Kahlert H,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Becker W,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       allergies
                                           AAW76443;
                                                                                                                                                                                                                                                             Graminae.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 23
AAW76455
ID AAW764
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      qq
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GKATTEEOKLIEDIN 43 

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29 GKATTEEOKLIE 40
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                                                                                                                                                                                             Kay AB, Larche M;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                257 AA;
WO9934826-A1.
                                                                    11-JAN-1999;
                                                                                                                        09-JAN-1998;
                                    15-JUL-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Phleum sp.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAY25615;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAY25615
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       allergen; grass; tree; weed; pollen; fungi; mould; food; insect; sting; chiromidae; spider; mite; housefly; fruit fly; sheep blow fly; honeybee; screw worm fly; grain weevil; silkworm; bee moth; larvae; mealworm; cat; cockroach; beetle; dog; horse; cow; pig; sheep; rabbit; rat; guinea pig; mice; gerbil; vaccine; treatment; prevention; hypersensitivity.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAW76449-W76534 are peptide fragments of a natural pollen allergen, phi p 5b, isolated from Graminae species. This allergen can be modified and the reactivity of the modified allergens with IgE antibodies to grass pollen allergens is reduced or eliminated while their reactivity with T cells is retained. The genes for the allergens are modified so that the encoded polypeptides have one or more amino acid substitutions, that the ancided polypeptides have one or more amino acid substitutions, deletions and/or additions. The dominant T-cell epitopes of the allergens are not genetically altered. Such allergens have applications in the immunotherapy of allergies e.g. hyposensitisation.
                                                                                                                     Pollen; allergen; Phl p 5b; IgE; antibody; grass; reactivity; T cell; epitope; immunotherapy; allergy; hyposensitisation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Major histocompatibility complex; class II; desensitising; human;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Modified recombinant allergens - useful for immuno-therapy of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 8.7%; Score 12; DB 19; Length 12; Best Local Similarity 100.0%; Pred. No. 2.4e-05; Matches 12; Conservative 0; Mismatches 0; Indels
                                                                                  Graminae pollen allergen Phl p 5b peptide fragment #7
                                                                                                                                                                                                                                                                                                                                                                                      Jaeger L;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Phleum sp. allergen Phl p 5 protein fragment #11.
                                                                                                                                                                                                                                                                                                                                                                                    Fiebig H, Stuewe H;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAY25630 standard; protein; 257 AA.
                                                                                                                                                                                                                                                                                                                                                                                    Bufe A, Cromwell O, F
Mueller W, Schramm G,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Example 1; Page 12; 31pp; German.
                                                                                                                                                                                                                                                                               97DE-1013001.
                                                                                                                                                                                                                                                                                                                97DE-1013001.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    30-SEP-1999 (first entry)
                                                  11-DEC-1998 (first entry)
                                                                                                                                                                                                                                                                                                                                                    (MERE ) MERCK PATENT GMBH.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          30 KATTEEQKLIED 41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WPI; 1998-522170/45.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       12 AA;
                                                                                                                                                                                                             DE19713001-A1
                                                                                                                                                                                                                                                                                                                  27-MAR-1997;
                                                                                                                                                                                                                                               01-OCT-1998.
                                                                                                                                                                                                                                                                                                                                                                                                      Kahlert H,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Phleum sp
                                                                                                                                                                                                                                                                                                                                                                                      Becker W,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             allergies
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAY25630;
                                                                                                                                                                           Graminae
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This invention describes a novel method of desensitizing a patient to a polypeptide allergen and comprises administering to the patient a peptide derived from the allergen where restriction to a MHC Class II molecule possessed by the patient can be demonstrated for the peptide and the peptide is able to induce a late phase response in an individual who possesses the MHC class II molecule. The methods can be used for desensitising patients to allergens present in e.g. grass, tree and weed including ragweed) pollens, fungl and moulds, foods, stinging insects, the chiromidae (non-biting midges), spiders and mites, housefly, fruit if it, sheep blow fly, screw worm fly, grain weevil, silworm, honeybee, non-biting midge larvae, bee moth larvae, mealworm, cockroach, larvae of renibrio molitor beetle, mammals such as cat, dog, horse, cow, pig, sheep, rabbit, rat, guinea pig, mice or gerbil. They can also be used to produce immunological vaccines which may be used to prevent and/or treat conditions involving hypersensitivity to allergens. This sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Major histocompatibility complex; class II; desensitising; human; allergen; grass; tree; weed; pollen; fungi; mould; food; insect; sting; chiromidae; spider; mite; housefly; fruit fly; sheep blow fly; honeybee; screw worm fly; grain weevil; silkworm; bee moth; larvae; mealworm; cockroach; beetle; dog; horse; cow; pig; sheep; rabbit; rat; guinea pig; mice; gerbil; vaccine; treatment; prevention; hypersensitivity.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 257;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8.7%; Score 12; DB 20; I
100.0%; Pred. No. 0.00037;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Phleum sp. allergen Phl p 5 protein fragment #1.
                                                                                                                                                                                                                                                                                                                                Desensitizing patients to polypeptide allergens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              100.0%; Pred. No. 0.0 tive 0; Mismatches
                                                                                                                                                (IMCO-) IMPERIAL COLLEGE INNOVATIONS LTD.
                                                                                                                                                                                                                                                                                                                                                                                           Example 6; Page 64; 117pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAY25615 standard; protein; 276 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  99WO-GB00080
99WO-GB00080
                                                          98GB-0020474
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              30-SEP-1999 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Best Local Similarity 100.
Matches 12; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  11-JAN-1999;
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                                                                                                                                                  This invention describes a novel method of desensitizing a patient to a polypeptide allergen and comprises administering to the patient a peptide derived from the allergen where restriction to a MHC class II molecule possessed by the patient can be demonstrated for the peptide and the peptide is able to induce a late phase response in an individual who possesses the MHC class II molecule. The methods can be used for class li molecule. The methods can be used for desensitising patients to allergens present in e.g. grass, tree and weed (including ragweed) pollens, fungi and moulds, foods, stinging insects, the chiromidae (non-biting midges), spiders and mites, housefly, fruit fly, sheep blow fly, screw worm fly, grain weevil, silkworm, honeybee, non-biting midge larvae, bee moth larvae, mealworm, cockroach, larvae of Tenibrio molitor beetle, mammals such as cat, dog, horse, cow, pig,
                                                                                                                                                                                                                                                                                                 sheep, rabbit, rat, guinem mammans of gerbil. They can also be used to produce immunological vaccines which may be used to prevent and/or treat conditions involving hypersensitivity to allergens. This sequence represents a Phleum sp. (Timothy grass) Phl p 5 allergen.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Major histocompatibility complex; class II; desensitising; human; allergen; grass; tree; weed; pollen; fungi; mould; food; insect; sting; chiromidae; spider; mite; housefly; fruit fly; sheep blow fly; honeybee; screw worm fly; grain weevil; silkworm; bee moth; larvae; mealworm; cat; cockroach; beetle; dog; horse; cow; pig; sheep; rabbit; rat; guinea pig; mice; gerbll; vaccine; treatment; prevention; hypersensitivity.
                                                                                                                                                                                                                                                                                                                                                                                                                          0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                  Score 12; DB 20; Length 276;
Pred. No. 0.0004;
0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Phleum sp. allergen Phl p 5 protein fragment #2.
                                                                                                          Desensitizing patients to polypeptide allergens
                                  (IMCO-) IMPERIAL COLLEGE INNOVATIONS LTD.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (IMCO-) IMPERIAL COLLEGE INNOVATIONS LTD.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAY25616 standard; protein; 276 AA.
                                                                                                                            Example 6; Page 59; 117pp; English
                                                                                                                                                                                                                                                                                                                                                                                                    8.7%; £
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98GB-0020474
98GB-0000445
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98GB-0000445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity 100.
Matches 12; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                             29 GKATTEEQKLIE 40
                                                                                  WPI; 1999-458255/38
                                                          Larche M;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Larche M;
                                                                                                                                                                                                                                                                                                                                                                 276 AA;
21-SEP-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WO9934826-A1
           09-JAN-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  30-SEP-1999
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09-JAN-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    15-JUL-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Phleum sp.
                                                                                                                                                                                                                                                                                                                                                                  Seguence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAY25616;
                                                          Kay AB,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Kay AB,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT
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This invention describes a novel method of desensitizing a patient to a polypeptide allergen and comprises administering to the patient a peptide derived from the allergen where restriction to a MHC Class II molecule possessed by the patient can be demonstrated for the peptide and the peptide is able to induce a late phase response in an individual who possesses the MHC class II molecule. The methods can be used for desensitising patients to allergens present in e.g. grass, tree and weed (including ragweed) pollens, fungi and moulds, foods, stinging insects, the chiromidae (non-biting midges), spiders and mites, housefly, fruit fly, sheep blow fly, screw worm fly, grain weevil, sliworm, honeybee, non-biting midge larvae, bee moth larvae, mealworm, cockroach, larvae of Tenibrio molitor beetle, mammals such as cat, dog, horse, cow, pig, sheep, rabbit, rat, guinea pig, mice or gerbil. They can also be used to produce immunological vaccines which may be used to prevent and/or treat conditions involving hypersensitiuity to allergens. This sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Major histocompatibility complex; class II; desensitising; human; allergen; grass; tree; weed; pollen; fungi; mould; food; insect; sting; chiromidae; spider; mite; housefly; fruit fly; sheep blow fly; honeybee; screw worm fly; grain weevil; silkworm; bee moth; larvae; mealworm; cat; cockroach; beetle; dog; horse; cow; pig; sheep; rabbit; rat; guinea pig; mice; gerbil; vaccine; treatment; prevention; hypersensitivity.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
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100.0%; Pred. No. 0.0004;
Live 0; Mismatches 0; Indels
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Desensitizing patients to polypeptide allergens
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                                                                   Example 6; Page 59-60; 117pp; English
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Best Local Similarity 100.
Matches 12; Conservative
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polypeptide allergen and comprises administrating to the patient a peptide derived from the allergen where restriction to a MHC Class II molecule possessed by the patient can be demonstrated for the peptide and the peptide is able to induce a late phase response in an individual who possesses the MHC class II molecule. The methods can be used for desensitising patients to allergens present in e.g. grass, tree and weed (including ragweed) pollens, fungi and moulds, foods, stinging insects, the chiromidae (non-biting midges), spiders and mites, housefly, fruit if ly, sheep blow fly, screw worm fly, grain weelvil, slikworm, honeybee, non-biting midge larvae, bee moth larvae, mealworm, cockroach, larvae of renibrio molitor beetle, mammals such as cat, dog, horse, cow, pig, sheep, rabbit, rat, guinea pig, mice or gerbil. They can also be used to produce immunological vaccines which may be used to prevent and/or treat conditions involving hypersensitivity to allergens. This sequence represents a Phleum sp. (Timothy grass) Phl p 5 allergen.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Major histocompatibility complex; class II; desensitising; human; allergen; grass; tree; weed; pollen; fungi; mould; food; insect; sting; chiromidae; spider; mite; housefly; fruit fly; sheep blow fly; honeybee; screw worm fly; grain weevil; silkworm; bee moth; larvae; mealworm; cat; cockroach; beetle; dog; horse; cow; pig; sheep; rabbit; rat; guinea pig; mice; gerbll; vaccine; treatment; prevention; hypersensitivity.
                  This invention describes a novel method of desensitizing a patient to a
                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
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                                                                                                                                                                                                                                                                                                                                                                                     8.7%; Score 12; DB 20; Length 276; 100.0%; Pred. No. 0.0004; rive 0; Mismatches 0; Indels
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98GB-0000445
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Matches 12; Conservative
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09-JAN-1998;
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ID AAY2
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polypeptide allergen and comprises administering to the patient a peptide destrived from the allergen where restriction to a MRC class II molecule possessed by the patient can be demonstrated for the peptide and the peptide is able to induce a late phase response in an individual who

This invention describes a novel method of desensitizing a patient to a

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possesses the MHC Class II molecule. The methods can be used for desensitising patients to allergens present in e.g. grass, tree and weed (including ragweed) pollens, fungi and moulds, foods, stinging insects, the chiromidae (non-biting midges), spiders and mites, housefly, fruit fly, sheep blow fly, screw worm fly, grain weevil, slikworm, honeybee, non-biting midge larvae, bee moth larvae, mealworm, cockroach, larvae of Tenibrio molitor beetle, mammals such as cat, dog, horse, cow, pig, sheep, rabbit, rat, guinea pig, mice or gerbil. They can also be used to produce immunological vaccines which may be used to prevent and/or treat conditions involving hypersensitivity to allergens. This sequence represents a Phleum sp. (Timothy grass) Phl p 5a allergen.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Major histocompatibility complex; class II; desensitising; human; allergen; grass; tree; weed; pollen; fungi; mould; food; insect; sting; chiromidae; spider; mite; housefly; fruit fly; sheep blow fly; honeybee; screw worm fly; grain weevil; silkworm; bee moth; larvae; mealworm; cockroach; beetle; dog; horse; cow; pig; sheep; rabbit; rat; guinea pig; mice; gerbil; vaccine; treatment; prevention; hypersensitivity.
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Pred. No. 0.00041;
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                                                                                                                                                                                                                                                                                    8.7%; Scuring 100.0%; Pred
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                                                                                                                                                                                                                                                                                                                                               Conservative
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Best Local Similarity
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                                                                                                                                                                                                                                               285 AA;
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Tenibrio molitor beetle, mammals such as cat, dog, horse, cow, pig, sheep, rabbit, rat, guinea pig, mice or gerbil. They can also be used to produce immunological vaccines which may be used to prevent and/or treat conditions involving hypersensitivity to allergens. This sequence represents a Phleum sp. (Timothy grass) Phl p 5a allergen.
     888888
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286 AA Sequence

Length 286; 8.7%; Score 12; DB 20; Length 28 100.0%; Pred. No. 0.00041; Live 0; Mismatches 0; Indels Query Match
Best Local Similarity 100.
Matches 12; Conservative 29 GKATTEEQKLIE 40 δ

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AAY25618 standard; protein; 286 AA

AAY25618;

(first entry) 30-SEP-1999

allergen Phl p 5a protein fragment #1 Phleum sp.

allergen; grass; tree; weed; pollen; fungi; mould; food; insect; sting; chiromidae; spider; mite; houseffy; fruit fly; sheep blow fly; honeybee; screw worm fly; grain weevil; silkworm; bee moth; larvae; mealworm; cat; cockroach; beetle; dog; horse; cow; pfy; sheep; rabbit; rat; guinea pig; mice; gerbil; vaccine; treatment; prevention; hypersensitivity. Major histocompatibility complex; class II; desensitising; human; 

Phleum sp.

W09934826-A1

15-JUL-1999;

99WO-GB00080. 11-JAN-1999;

98GB-0020474 98GB-0000445 21-SEP-1998; 09-JAN-1998;

(IMCO-) IMPERIAL COLLEGE INNOVATIONS LTD.

Larche M; Кау АВ, WPI; 1999-458255/38

Desensitizing patients to polypeptide allergens

Example 6; Page 60; 117pp; English.

This invention describes a novel method of desensitizing a patient to a polypeptide allergen and comprises administering to the patient a peptide derived from the allergen where restriction to a MHC Class II molecule possessed by the patient can be demonstrated for the peptide and the pestide is able to induce a late phase response in an individual who possesses the MHC class II molecule. The methods can be used for desensitising patients to allergens present in e.g. grass, tree and weed (including ragweed) pollens, fungl and moulds, foods, stinging insects, the chiromidae (non-biting midges), spiders and mites, housefly, fruit fly, sheep blow fly, screw worm fly, grain weevil, silkworm, honeybee, non-biting midge larvae, bee moth larvae, mealworm, cockroach, larvae of Tenibrio molitor beetle, mammals such as cat, dog, horse, cow, pig, Tenibrio molitor allergens which may be used to prevent and/or treat conditions involving hypersensitivity to allergens. This sequence

286 AA; Sequence

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Gaps ö Length 286; 0; Indels Score 12; DB 20; I Pred. No. 0.00041; 0; Mismatches 8.7%; 5 Query Match 8.7 Best Local Similarity 100. Matches 12; Conservative

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ion 4.5 00 Compugen Ltd.	19	.30 ; Search time 22.52 Seconds (without alignments) 810.750 Million cell updates/sec	SEALHIIAGTPEVHAVKPGA 138		residues		parameters: 425026		St				results predicted by chance to have a to the score of the result being printed, of the total score distribution.	IES	Description	phleum phleum	holcus phleum	P93466 phleum prat O81344 phleum prat	phleum phleum	hleum		phleum	1 phleum 1 holcus	Q91477 pseudomonas O23824 zea mays (m Q9pkb6 chlamydia m
GenCore version Copyright (c) 1993 - 2000	protein search, using sw model	November 19, 2001, 13:09:30	CAA76556 138 1 MAAHKFMVAMFLAVAVVLGL	OLIGO Gapop 60.0 , Gapext 60.0	425026 segs, 132305027 re	0	hits satisfying chosen	length: 0 length: 2000000000	y: Listing first 50 summaries	SPTREMBL_16:* 1: Sp_archea:* 2: sp_bacteria:* 3: sp_fungi:* 4: sp_human:* 5: sp_huwertebrate:* 6: sp mammal:*	7: sp_mhc:* 8: sp_organelle:*	9: sp_phage:* 10: sp_plant:* 11: sp_rodent:*	No. is the number of results p greater than or equal to the s derived by analysis of the to	SUMMARIES	Query Match Length DB ID	138	264 10 265 10	281 10 287 10	290 295	276 10	276 10	276 10	18.7 312 10 081341 17.2 240 10 023971	443 503
	OM protein - př	Run on:	Title: Perfect score: Sequence:	Scoring table:	Searched:	Word size :	Total number of	Minimum DB seq Maximum DB seq	Post-processing:	Database :			Pred. No. score gre and is de		Result No. Score	1 138							15 12 10 10	

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060415 homo sapien
09198r2 aeropyrum p
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083045 azospirillu
094259 mus musculu
060414 homo sapien
091k50 arabidopsis
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Viridiplantae; Embryophyta; Tracheophyta; Spermatophyta; Viridiplantae; Embryophyta; Tracheophyta; Doaceae; Pooideae; Poeae; Phleum=15957;
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Last annotation update)
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Q9RXE0
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29 138 PC
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1 MAAHKFMVAMFLAVAVVLGLATSPTAEGGKATTEEQKLIEDINASFRAAMATTANVPPAD 60

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Gaps

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MEDLINE=97390090; PubMed=9249029;
MEDLINE=97390090; PubMed=9249029;
Gehlhar K., Petersen A., Schramm G., Becker W.M., Schlaak M., Bufe A.;
"Investigation of different recombinant isoforms of grass group-V
allergens (timothy grass pollen) isolated by low-stringency cDNA
hybridization--antibody binding capacity and allergenic activity.";
Eur. J. Blochem. 247:217-223(1997).
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Magnoliophyta; Liliopsida; Poales; Poaceae; Pooideae; Poeae; Phleum.
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"Investigation of different recombinant isoforms of grass group-V
                                                                                             Length 264;
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                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           allergens of timothy grass (Phleum pratense).";
Submitted (MAX-1998) to the EMBL/GenBank/DDBJ databases.
EMBL; AR059472; AR05996.1; -.
InterPro; IPR000104; -.
InterPro; IPR001778; -.
InterPro; IPR002914; -.
Pfau; PF01620; POllen_allerg_2; 1.
PRINTS; PR000338; ANTIFREEZEI.
PRINTS; PR00833; POAALLERGEN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    265 AA; 26210 MW; BA3442E684419DE4 CRC64;
                                        26216 MW; 3F9409429DC9337F CRC64;
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01-MAY-1997 (TrEMBLrel. 03, Last sequence update)
01-CT-2000 (TrEMBLrel. 15, Last annotation update)
MAJOR ALLERGEN PHL P 5 PRECURSOR (FRAGMENT).
Phleum pratense (Common timothy).
                                                                                                                                                                                                                                                                                                                                     01-MAY-2000 (TrEMBLrel. 13, Created)
01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-UNN-2000 (TrEMBLrel. 14, Last annotation update)
GROUP V ALLERGEN PHL P 5.0204 (FRAGMENT).
Phleum pratense (Common timothy).
                                                                                           DB 10; I
. 5.4e-09;
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Pred. No. 5.6e-07;
                                                                                                                                                                                                                                                                                                    265 AA.
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Mismatches
                                                                                                                                  Mismatches
                                                                                             Score 17;
Pred. No.
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   PRINTS; PR00833; POAALLERGEN.
                                                                                                                100.0%;
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                                                                                             12.3%;
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                                                                                                                                                                                         Best Local Similarity 100.
Matches 17; Conservative
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Matches 15; Conservative
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                                      264 AA;
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Magnoliophyta; Liliopsida; Poales; Poaceae; Pooldeae; Poeae; Holcus.
NCBI_TaxID=29679;
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1 MAAHKFWVAMFLAVAVVLGLATSPTAEGGKATTEEQKLIEDINASFRAAMATTANVPPAD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Schramm G., Bufe A., Petersen A., Schlaak M., Becker W.; Molecular and immunological characterization of group V allergen isoforms from velvet grass pollen (Holcus lanatus)."; Eur. J. Biochem. 252:200-206(1998).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
STRAIN-C171; TISSUE-POLLEN;
Vrtala S., Fischer S., Grote M., Vangelista L., Pastore A.,
Sperr W.R., Valent P., Reichelt R., Kraft D., Valenta R.;
Submitted (MAR-1998) to the EMBL/GenBank/DDBJ databases.
EMBL; Y16957; CAA76558.1; -
Mendel; 29289; Phlpr;1486;29289.
Interpro; IPR002914; -
Interpro; PR002014; -
Interpro; Pollen_allerg_2; 1.
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Last annotation update)
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Last annotation update)
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100.0%; Pred. No.
0; Mismatches
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STRAIN-HOLCUS LANATUS; TISSUB-INFLORESCENCE;
MEDLINE-98181862; PubMed-9523689;
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                                                                                                                                                                                                                                                                                              01-AUG-1998 (TrEMBLrel. 07, Create 01-AUG-1998 (TrEMBLrel. 07, Last solumar-2000 (TrEMBLrel. 13, Last PHL P6 IGE BINDING FRAGMENT (FRAGING Phleum pratense (Common timothy).
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15,
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                                                                                                                                                     Matches 57; Conservative
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01-JAN-1998 (TrEMBLrel.
01-OCT-2000 (TrEMBLrel.
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RESOULT 023972 11D 023972 11D 023972 11D 023972 11D 021972 11D 021972 12D 021972 12D 021972 12D 022 12D 023972 12D 02

Pred. No.

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100.08;
                Conservative
                                                         43 GKATTEEQKLIEDIN
                                          29 GKATTEEQKLIEDIN
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290 AA;
  Best Local Similarity
Matches 15; Conserv
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Best Local Similarity
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081343;
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081342;
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"Investigation of different recombinant isoforms of grass group-V
allergens of timothy grass (Phleum pratense).";
Submitted (MAY. 1998) to the EMBL/GenBank/DDBJ databases.
EMBL; ARC059871; AAC05981:
Mendel, 31984; Phlpr.1486;31984.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDILINE=97390090; PubMed=9249029;
Gehlhar K., Petersen A., Schramm G., Becker W.M., Schlaak M., Bufe A.;
"Investigation of different recombinant isoforms of grass group-V
allergens (timothy grass pollen) isolated by low-stringency cDNA
hybridization--antibody binding capacity and allergenic activity.";
                                   STAIN=POACEAE;
WEDLINE=9730090; PubMed=9249029;
WEDLINE=97300909; PubMed=9249029;
Gehlhar K., Petersen A., Schramm G., Becker W., Schlaak M., Bufe A.;
Ghlhar K., Petersen A., Schramm G., Becker W., Schlaak M., Bufe A.;
Investigation of different recombinant isoforms of grass group-V
allergens (timothy grass pollen) isolated by low-stringency cDNA
hybridization-antibody binding capacity and allergenic activity.";
Eur. J. Biochem. 247:217-23(1997).
EMBL: 282985; CAB05371.1;
Mendel: 9950; Phlpr:1486;9950.
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GROUP V ALLERGEN PHL P 5.0207.
4AE8622EA85EC809 CRC64;
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MAJOR ALLERGEN PHL P 5.
28ED366EE0D798AA CRC64;
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01-NOV-1998 (TrEMBLrel. 08, Last sequence update)
01-NAY-2000 (TrEMBLrel. 13, Last annotation update)
GROUP V ALLERGEN PHL P 5.0207 PRECURSOR.
                                                                                                                                                                                                                                                                                                        Score 15; DB 10; L
Pred. No. 5.9e-07;
0; Mismatches 0;
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                                                                                                                                                                     InterPro, IPR002914; -- Pfam; PF01620; Pollen_allerg_2; 1. PRINTS; PR00833; POAALLERGEN.
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tive 0;
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287 GI
28344 MW;
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16
281
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                                                                                                                                                         InterPro; IPR001778;
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Best Local Similarity
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NCBI_TaxID=15957;
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SIGNAL
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Length 287;

10.9%; Score 15; DB 10;

Query Match

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"Investigation of different recombinant isoforms of grass group-V
allergens of timothy grass (Phleum pratense).";
Submitted (MAX-1998) to the EMBL/GenBank/DDBJ databases.
EMBL; AF069473; AAC25997.1; -.
Mendel; 31983; Phlpr; 486;31983.
InterPro; IPR00178; -.
InterPro; IPR00128; -.
Pfam; PF01620; Pollen_allerg_2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEDLINE=97390090; PubMed=9249029; Gehlhar K., Petersen A., Schramm G., Becker W.M., Schlaak M., Bufe A.; "Investigation of different recombinant isoforms of grass group-V allergens (timothy grass pollen) isolated by low-stringency cDNA hybridization--antibody binding capacity and allergenic activity."; Eur. J. Biochem. 247:217-223(1997).
                                        Gaps
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Magnoliophyta; Liliopsida; Poales; Poaceae; Pooideae; Poeae; Phleum.
NCBI_TaxID=15957;
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Magnoliophyta; Liliopsida; Poales; Poaceae; Pooideae; Poeae; Phleum
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290 GROUP V ALLERGEN PHL P 5.0206.
28829 MW; D5D37C2542C0CC40 CRC64;
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                                        Indels
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                                                                                                                                                                                                                                                                                        01-NOV-1998 (TrEMBLrel. 08, Created)
01-NOV-1998 (TrEMBLrel. 08, Last sequence update)
01-MAY-2000 (TrEMBLrell. 13, Last annotation update)
GROUP V ALLERGEN PHL P 5.0206 PRECURSOR.
Phleum pratense (Common timothy).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-NOV-1998 (TrEMBLrel. 08, Created)
01-NOV-1998 (TrEMBLrel. 08, Last sequence update)
01-CCT-2000 (TrEMBLrel. 15, Last annotation update)
GROUP V ALLERGEN PHL P 5.0203 PRECURSOR (FRAGMENT).
. 6e-07;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 15; DB 10; Pred. No. 6.1e-07;
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                                                                                                                                                                                                                                                 290 AA
                                      Mismatches
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TISSUE-POLLEN;
MEDLINE-97390090; Pubmed-9249029;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (Common timothy)
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100.0%;
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01-AUG-1998 (TrEMBLrel. 07, Created)
01-AUG-1998 (TrEMBLrel. 07, Last sequence update)
01-OCT-2000 (TrEMBLrel. 15, Last annotation update)
MAJOR ALLERGEN PHL P 5 (FRAGMENT).
Phleum pratense (Common timochy).
Phleum pratense (Common timochy).
Bukaryota; Viridiplantae; Embryophyta; Tracheophyta; Spermatophyta;
Magnollophyta; Liliopsida; Poales; Poaceae; Pooideae; Poeae; Phleum.
NCBL_TAXID-15957;
                                                                                                 Eukaryota; Viridiplantae; Embryophyta; Tracheophyta; Spermatophyta;
Magnoliophyta; Liliopsida; Poales; Poaceae; Pooideae; Poeae; Phleum.
NCBL_TaxID=15957;
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Submitted (APR-1998) to the EMBL/GenBank/DDBJ databases.
EMBL, RF061068, AAC16527.1; -.
Mendel, 28989; Phlpr:4486;28989.
InterPro; IPR001778; -.
InterPro; IPR002734; -.
                                                                                                                                                                                            Missenbach M.;
Submitted (APR-1998) to the EMBL/GenBank/DDBJ databases.
BMB.; AF061.067; AAC16526.1; -.
Mendel; 28988; Phlpr;1486;28988.
InterPro; IPR001778; -.
InterPro; IPR002914; -.
Pfam; PF01620; Pollen_allerg_2; 1.
PRINTS; PR00833; POAALLERGEN.
NON_TER
SEQUENCE 276 AA; 27675 MW; OBC0ACA64E3697CB CRC64;
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PRINTS; PR0083; POAALLERGEN.
NON_TER 1
SEQUENCE 276 AA; 27603 MW; 0BD4E7B2EB2AE7CB CRC64;
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Last annotation update)
 01-AUG-1998 (TrEMBLrel. 07, Created)
01-AUG-1998 (TrEMBLrel. 07, Last sequence update)
01-COT-2000 (TrEMBLrel. 15, Last annotation update)
MAJOR ALLERGEN PHL P 5 (FRAGMENT).
Phleum pratense (Common timothy).
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Pred. No. 0.00061;
0; Mismatches 0;
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100.0%; Pre
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Best Local Similarity 100.
Matches 12; Conservative
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Best Local Similarity 100.
Matches 12, Conservative
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SEQUENCE FROM N.A.
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01-OCT-2000 (
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065320
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                                                                                                                                                    Genthar K., Bufe A., Petersen A., Schramm G., Becker W.M., Schlaak M.;
"Investigation of different recombinant isoforms of grass group-V
allergens of timothy grass (Phleum pratense).";
Submitted (MAY-1998) to the EMBL/GenBank/DDBJ databases.
EMBL, AF069471; AAC25995.1;
Mendel, 31982; Phlpr;1486;31982.
InterPro; IPR001778;
InterPro; IPR002914; -.
Pfam; PF01620; PO11en_allerg_2; 1.
Gehlhar K., Petersen A., Schramm G., Becker W.M., Schlaak M., Bufe A.; "Investigation of different recombinant isoforms of grass group-V allergens (timothy grass pollen) isolated by low-stringency cDNA hybridization--antibody binding capacity and allergenic activity."; Eur. J. Blochem. 247:217-223(1997).
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01-00.1998 (TrEMBLrel. 07, Created)

01-00.1-00 (TrEMBLrel. 15, Last sequence update)

01-0CT-2000 (TrEMBLrel. 15, Last annotation update)

MAJOR ALLERGEN PHL P 5 (FRAGMENT).

Phleum pratense (Common timothy).

Eukaryota; Viridiplantae; Embryophyta; Tracheophyta; Spermatophyta;

Magnoliophyta; Liliopsida; Poales; Poaceae; Pooideae; Poeae, Phleum.

NCBI_TAXID=15957;
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30 POTENTIAL.
295 GROUP V ALLERGEN PHL P 5.0203.
29312 MW; A38BA733C50C0CA0 CRC64;
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100.0%; Pred. No. 0.00061;
Live 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 15; DB 10; Length 295;
Pred. No. 6.2e-07;
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Submitted (APR-1998) to the EMBL/GénBank/DDBJ databases.
EMBL, AF061065; AAC16525.1; -.
Mendel, 28987; Phlpr:4486;28987.
InterPro; IPR001778; -.
InterPro; IPR002914; -.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Best Local Similarity
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Best Local Similarity
Matches 12; Conserv
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                                                                                                   [2]
SEQUENCE FROM N.A.
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                                                                                                                                        TISSUE-POLLEN;
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SEQUENCE
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ID 065319
AC 065319;
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SIGNAL
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312 AA;
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                                              PHLP5 PRECURSOR
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SEQUENCE
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MEDLINE=97390090; PubMed=9249029;
MEDLINE=97390090; PubMed=9249029;
Gehlhar K., Petersen A., Schramm G., Becker W., Schlaak M., Bufe A.;
Gehlhar K., Petersen A., Schramm G., Becker W., Schlaak M., Bufe A.;
allergation of afferent recombinant isoforms of grass group-V
allergans (timothy grass pollen) isolated by low-stringency cDNA
hybridization--antibody binding capacity and allergenic activity.";
Eur. J. Biochem. 247:217-223(1997).
Eur. J. Biochem. 247:217-223(1997).
Mendel, 9951; Phlpr:1486;9951.
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                       Eukaryota; Viridiplantae; Embryophyta; Tracheophyta; Spermatophyta;
Magnoliophyta; Liliopsida; Poales; Poaceae; Pooldeae; Poeae; Phleum.
NCBL_raxID=15957;
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100.0%; Pred. No. 0.00061;
.ive 0; Mismatches 0; Indels
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                                                                                                                                                           Submitted (APR-1998) to the EMBL/GenBank/DDBJ databases. EMBL, AF061069; AAC16528.1; -. Mendel; 28990; Phlpr:1486;28990. InterPro; IPR001778; -.
                                                                                                                                                                                                                                                                                                                                   07FC5F654E3697CB CRC64;
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01-CGT-2000 (TrEMBLrel. 15, Last annotation update)
MAJOR ALLERGEN PHL P 5 (FRAGMENT)
Phleum pratense (Common timothy)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match 8.7%; Score 12; DB 10; I Best Local Similarity 100.0%; Pred. No. 0.00061; Matches 12; Conservative 0; Mismatches 0;
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                                                                                                                                                                                                                                                                   Pfam; PF01620; Pollen_allerg_2; 1. PfathYRYS; PR00833; POAALLERGEN. NON TER SEQUENCE 276 AA; 27709 MW; 07F
MAJOR ALLERGEN PHL P 5 (FRAGMENT).
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Matches 12; Conservative
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                                                                                                                                                                                                                                                  ; IPR002914;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              29 GKATTEEOKLIE 40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     21 GKATTEEQKLIE 32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   29 GKATTEEQKLIE 40
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                                                                                                                           SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NCBI_TaxID=15957;
                                                                                                                                                Wissenbach M.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NON_TER
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                               Query Match
                                                                                                                                                                                                                                                       InterPro
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  040960;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 13
P93467
AC P934677
BD P934677
BD O1-MAY.
DT O1-MAY.
DE MAJOR RAJOR RA
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Q40960
ID Q40960
AC Q40960
DT 01-NOV
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MEDLINE-97390090; PubMed-9249029; Gehlhar K., Petersen A., Schramm G., Becker W.M., Schlaak M., Bufe A.; Gehlhar K., Petersen A., Schramm G., Becker W.M., Schlaak M., Bufe A.; "Investigation of different recombinant isoforms of grass group-V allergens (timothy grass pollen) isolated by low-stringency cDNA hybridization--antibody binding capacity and allergenic activity."; Eur. J. Biochem. 247:217-223(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                   Eukaryota, Viridiplantae, Embryophyta, Tracheophyta, Spermatophyta,
Magnoliophyta, Liliopsida, Poales, Poaceae, Pooideae, Poeae, Phleum.
NCBI_TaxID=15957,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Phleum pratense (Common timothy).
Eukaryota, Viridiplantae; Embryophyta; Tracheophyta; Spermatophyta;
Magnoliophyta; Liliopsida; Poales; Poaceae; Pooideae; Poeae; Phleum.
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                                                                                                                                                                                                   SEQUENCE FROM N.A.

Vrtala S., Sperr W.R., Reimitzer I., Van Ree R., Laffer S., Mueller W.D., Valent P., Lechner K., Rumpold H., Kraft D., Scheiner O., Valenta R.;
J. Immunol. 0.0-0(0).

EMBL; X74735; CAA52753.1; -.
Mendel; 9952; Phlpr; 1466; 9952.

InterPro; IPRO01778; -.

InterPro; IPRO02914; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 312;
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E78C2872A6CE8F49 CRC64;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BC94B13818CEE07F CRC64;
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01-NOV-1998 (TrEMBLrel. 08, Last sequence update)
01-0CT-2000 (TrEMBLrel. 15, Last annotation update)
GROUP V ALLERGEN PHL P 5.0103 PRECURSOR.
01-NOV-1996 (TrEMBLrel. 01, Last sequence update) 01-OCT-2000 (TrEMBLrel. 15, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8.7%; Score 12; DB 10; I
100.0%; Pred. No. 0.00069;
tive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         312 AA.
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                                                                                                                                                                                                                                                                                                                                                                                                                            Pfam; PF01620; Pollen_allerg_2; 1.
PRINTS; PR00833; POAALLERGEN.
Signal; Allergen. 1 24 POTEN
                                                                         Phleum pratense (Common timothy).
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312 GF
31029 MW;
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31102 MW;
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Best Local Similarity 100.
Matches 12; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             29 GKATTEEQKLIE 40
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caa76556.oligo.rspt

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"Complete genome sequence of Pseudomonas aeruginosa PA01, an
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01-OCT-2000 (TrEMBLrel. 15, Created)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Pfam; PF00487; FA desaturase; 1. ProDom; PD001081; -; 1.
                                                                                                                                                          InterPro; IPR002198; ...
InterPro; IPR00244; ...
Pfam; PF00106; adh_short; 1.
Pfam; PF00678; adh_short_C2; 1.
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                                      opportunistic pathogen.";
Nature 406:959-964(2000).
EMBL; AE004609; AAG05217.1;
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01-JAN-1998 (TrEMBLrel. 05,
01-JAN-1998 (TrEMBLrel. 05,
01-OCT-2000 (TrEMBLrel. 15,
FATTY ACID DESATURASE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
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Matches 8; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity
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56 TAEGGKAT 63
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Q9PKB6
ID Q9PKB6
AC Q9PKB6
DT 01-OCT
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RTT RECEIVED ON THE CONTROL ON THE C
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KEDLINE-98181862; PubMed-9523689;

A REDLINE-98181862; PubMed-9523689;

A Schramm G., Bufe A., Petcarean A., Schlaak M., Becker W.;

Molecular and immunological characterization of group V allergen isoforms from velvet grass pollen (Holcus lanatus).";

Eur. J. Biochem. 252:200-206(1998).

EMBL; 297875; CAB10766.1; -.

Remel. 2503; Hollar, 1486; 25603.

RICEPPO: IPRO02914; -.

RICEPPO: IPRO02914; -.

RICEPPO: IPRO02914; -.

RILEPPO: IPRO033; POABLLERGEN.

PRINTS; PRO0833; POABLLERGEN.

ST. ANON_TER 1 1 1

SQ. SEQUENCE 240 AA; 24708 MW; AD232F202CF76C9F CRC64;
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                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5.02.
Holcus lanatus (Velvet grass).
Eukaryots, Viridiplantae; Embryophyta; Tracheophyta; Spermatophyta;
Magnoliophyta; Liliopsida; Poales; Poaceae; Pooldeae; Poeae; Holcus.
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Bacteria; Proteobacteria; gamma subdivision; Pseudomonadaceae;
                              Ouery Match . 8.7%; Score 12; DB 10; Length 312; Best Local Similarity 100.0%; Pred. No. 0.00069; Matches 12; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       7.2%; Score 10; DB 10; Length 240; 100.0%; Pred. No. 0.056; O. Mismatches 0; Indels
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Last annotation update)
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1-MAR-2001 (TrEMBLrel. 16, Last sequence update)
01-MAR-2001 (TrEMBLrel. 16, Last annotation update)
PROBABLE SHORT-CHAIN DEHYDROGENASE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          255 AA.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Created)
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Matches 10; Conservative
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                                                                                                                                                                                                     29 GKATTEEQKLIE 40
                                                                                                                                                                                                                                                    56 VPPADKYKTF 65
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21 VPPADKYKTF 30
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                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 16
023971
0023971
AC 023971
DT 01-5AN
DT 01-0CTN
DE GROUP
DE GROUP
CO BAKATY
CO MAGNOT
CO
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0912R7
AC 0912R7
DT 01-MARN
CC Bacter
CC
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MEDLINE-98145435; PubMed=9484441;
Berberich T., Harada M., Sugawara K., Kodama H., Iba K., Kusano T.;
Berberich T., Harada M., Sugawara K., Kodama H., Iba K., Kusano T.;
Two maize genes encoding omega-3 fatty acid desaturase and their
differential expression to temperature.";
Plant Mol. Biol. 36:297-306(1998).
EMBL; D63954; BAA22441.1; -.
EMBL; D63952; BAA22439.1; -.
Mendel; 24010; Zeama;1208;24010.
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Plant Mol. Biol. 0:0-0(1997).
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PRINTS; PROOO81; GDHRDH."
PRINTS; PROOO80; SDRFAMILY.
PROSITE; PSOOO61; ADH_SHORT; 1
SEQUENCE 255 AA; Z6919 MW; D6CAD2D77EB726EC CRC64;
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443 AA; 49437 MW; C9B41370CBB25D50 CRC64;
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100.0%; Pred. No. 10;
vative 0; Mismatches
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100.0%; Pred. No. 6.1;
iive 0; Mismatches
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59 AA.
         765 AA
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TRANSMEM 7 27 POTENTI
        PRT;
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765 AA; 89606 MW;
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        PRELIMINARY;
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                                                                                                                                                                NCBI_TaxID=2190;
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                                                                                                                                                   Methanococcus
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    Q59019
Q59019;
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Q9K2M5
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White O., Hickey E.K., Peterson J., Utterback T., Berry K., Bass S.,
Linher K., Weidman J., Khouri H., Craven B., Bowman C., Dodson R.,
Gwinn M., Nelson W., DeBoy R., Kolonay J., McClarty G., Salzberg S.L.,
Eisen J., Fraser C.M.;
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Proc. Natl. Acad. Sci. U.S.A. 94:9388(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               01-AUG-1998 (TrEMBLrel. 07, Created)
01-AUG-1998 (TrEMBLrel. 07, Last sequence update)
01-MAR-2001 (TrEMBLrel. 16, Last annotation update)
TRANGMEMBRANE PROTEIN DHLC HOWOLOG.
Rhodobacter capsulatus (Rhodopseudomonas capsulata).
Bacteria; Proteobacteria; alpha subdivision; Rhodobacter group;
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01-OCT-2000 (TrEMBLrel. 15, Last sequence update) 01-MAR-2001 (TrEMBLrel. 16, Last annotation update) NADH:UBIQUINONE OXIDOREDUCTASE, SUBUNIT B, PUTATIVE.
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                                                                            Bacteria; Chlamydiales; Chlamydiaceae; Chlamydia.
NCBI_TaxID=83560;
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100.0%; Pred. No. 11;
tive 0; Mismatches
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100.0%; Pred. No. 13;
live 0; Mismatches
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Nucleic Acids Res. 28:1397-1406(2000).
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STRAIN-MOPN / NIGG;
MEDLINE-20150255; Pubmed-10684935;
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MEDLINE-97404404; PubMed-9256491;
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                                                                                                                                                                                                                                                                                                                                        503 AA; 54968 MW;
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Best Local Similarity 100...
-hea 8; Conservative
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Best Local Similarity 100.
Matches 8; Conservative
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                                                                  Chlamydia muridarum
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NCBI_TaxID=1061;
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SEQUENCE 578
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MEDLINE-9637999; PubMed-8688087;
MEDLINE-9637999; PubMed-8688087;
MEDLINE-9637999; PubMed-8688087;
Bult C.J., White O., Olsen G.J., Zhou L., Fleischmann R.D.,
Sutton G.G., Blake J.A., Fitzgerald L.M., Clayton R.A., Gocayne J.D.,
Kerlavage A.R., Dougherty B.A., Tomb J.-F., Adams M.D., Reich C.I.,
Overbeek R., Kirkness E.F., Weinstock K.G., Merrick J.M., Glodek A.,
Scott J.L., Geoglagen N.S.M., Weidman J.F., Fuhrmann J.L., Nauyen D.,
Utterback T.R., Ralley J.M., Peterson J.D., Sadow P.W., Hanna M.C.,
Cotton M.D., Roberts K.M., Hurst M.A., Kaine B.P., Borodovsky M.,
Klenk H.-P., Fraser C.M., Smith H.O., Woese C.R., Venter J.C.;
"Complete genome sequence of the methanogenic archaeon, Methanococcus
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MEDLINE=91173737; PubMed=10075415;
Gibbon M.J., Sesma A., Canal A., Wood J.R., Hidalgo E., Brown J., Vivian A., Murillo J.;
"Replication regions from plant-pathogenic Pseudomonas syringae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -:- SUBCELLULAR LOCATION: INTEGRAL MEMBRANE PROTEIN (POTENTIAL).
EMBL: U67602 AAB99649.1; -.
TIGR; MJ1626; -.
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Bacteria; Proteobacteria; gamma subdivision; Pseudomonadaceae;
                                                                                                                         Methanococcus jannaschii.
Archaea: Euryarchaeota: Methanococcales; Methanococcaceae;
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01-JUN-1998 (TrEMBLrel. 06, Created)
01-JUN-1998 (TrEMBLrel. 06, Last sequence update)
01-JUN-1998 (TrEMBLrel. 06, Last annotation update)
HYPOTHETICAL PROTEIN MJ1626.
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100.0%; Pred. No. 17;
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MEDLINE-20504483; PubMed=11016950;
MEDLINE-20504483; PubMed=11016950;
M WG W.V. Kennedy S.P., Mahairas G.G., Berquist B., Pan M.,
M W.V., Kennedy S.P., Mahairas G.G., Berquist B., Pan M.,
Shukla H.D., Lasky S.P., Maliay N.S., Thorsson V., Sbrogna J.,
M Swartzell S., Wair D., Hall J., Dahl T.A., Welti R., Goo Y.A.,
Leithauser B., Reller K., Cruz R., Danson M.J., Hough D.W.,
M Maddocks D.G., Jablonski P.E., Krebs M.P., Angevine C.M., Dalle H.,
Alam M., Freitas T., Hou S., Dantels C.J., Dennis P.P., Omer A.D.,
Alam M., Freitas T., Hou S., Dantels C.J., Dennis P.P., Omer A.D.,
M Genome sequence of Halobacterium species NRC-1.";
Proc. Natl. Acad. Sci. U.S.A. 97:12176-12181(2000).
MR EMBL, AE005064; AAG19792.1;
PROCEDENCE 189 AA, 20104 MW, 9CDD64D566A50484 CRC64;
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01-NOV-1999 (TrEMBLrel. 12, Last sequence update)
01-NOV-1999 (TrEMBLrel. 12, Last annotation update)
HYPOTHETICAL 22.7 KDA PROTEIN.
Oryza sativa (Rice).
Bukaryota; Viridiplantae; Embryophyta; Tracheophyta; Spermatophyta;
Magnoliophyta; Liliopsida; Poales; Poaceae; Ehrhartoideae; Oryzeae;
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STRAIN=CV. NIPPONBARE;
SASAKI T., MATSHUOTCO T., Yamamoto K.;
"Oryza sativa Nipponbare(GA3) genomic DNA, chromosome 2, PAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Halobacterium sp. (strain NRC-1).
Archaea; Buryarchaeota; Halobacteriales; Halobacteriaceae;
Halobacterium.
                                                                                                                                   15966 MW; 45A3779B11D7DB21 CRC64;
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Last annotation update)
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100.0%; Pred. No. 38;
ative 0; Mismatches
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         InterPro; IPR000911; -.
Pfam; PF00298; Ribosomal_L11; 1.
ProDom; PD001367; -; 1.
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Best Local Similarity 100...
7; Conservative
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Best Local Similarity
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SEQUENCE 152 AA;
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Q9HPS5;
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MEDLINE-20479972; PubMed=11029001;
Ruepp A., Graml M., Santos-Martinez M.-L., Koretke K.K., Volker C.,
Mewes H.-W., Frishman D., Stocker S., Lupas A.N., Baumeister W.;
"The genome sequence of the thermoacidophilic scavenger Thermoplasma acidophilum.";
Miture 407:508-513(2000).
EMBL; AL445064; CAC11505.1;
                                                                                                                                                                                                                                                                                                                                                                                       Gaps
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Isolation of additional bacteriophages with genomes of segmented
double-stranded RNA."
Submitted (FEB-1999) to the EMBL/GenBank/DDBJ databases.
EMBL; AF125682; AAD22566.1; -.
SEMBL; AF125682; AAD22566.1; -.
SEQUENCE 132 A. 1325 MW; F23726EIDCD60FCO CRC64;
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Thermoplasma
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U-MAR-2001 (TrEMBLrel. 16, Last sequence update)
01-MAR-2001 (TrEMBLrel. 16, Last annotation update)
PROBABLE 50S RIBOSOMAL PROTEIN L11.
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Last annotation update)
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01-NOV-1999 (TrEMBLrel. 12, Last sequence update)
01-NOV-1999 (TrEMBLrel. 12, Last annotation update)
P12 (FRAGMENT).
bacteriophage phi-7.
Viruses; dSRNA viruses; Cystoviridae; Cystovirus.
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Pred. No. 16;
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100.0%; Pred. No. 34;
Live 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                    0; Mismatches
plasmids are similar to ColE2-replicon.";
Microbiology 145:325-334(1999).
EMBL; AJ277001; CAB82236.1; -.
EMBL; AJ277000; CAB83234.1; -.
EMBL; AJ277000; CAB83235.1; -.
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59 AA; 6349 MW;
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Matches 7; Conservative
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44 AVAVVLG 50
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AC 09HL70
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095A2P0
AC 095A2P0
DT 01-N0V
DT 01-N0V
DT 01-N0V
DE P12 (F)
CS bacter
CC VITUSE
CX NCBL_T;
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RP 12018
RR 115018
RT 15018
RT 15018
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CR Submit
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3BC885B35809A215 CRC64;

25138 MW;

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233 AA;
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210 VAVVLGL 216
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Q9XF24
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STRAIN=4TCC 12956;
MEDLINE-96335144; PubMed-8757400;
Fernendez E., Lombe F., Mendez C., Salas J.A.;
"An ABC transporter is essential for resistance to the antitumor agent mithramychin in the producer Streptomyces argillaceus.";
Mol. Gen. Genet. 251:692-698(1996).
EMBL; U43537; AAC44358.1;
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Eukaryota; Viridiplantae; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Rosidae; eurosids II; Brassicales; Brassicaceae; Arabidopsis.
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clone:P0437H03 (contig b).";
Submitted (JUL-1999) to the EMBL/GenBank/DDBJ databases.
EMBL; AP000367; BAA82385.1; -.
Hypothetical protein.
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SEQUENCE 209 AA; 23478 MW; F59DDF8A0408B6A5 CRC64;
                                                                                                                               E06D4A74A162DA9F CRC64;
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01-NOV-1996 (TrEMBLrel. 01, Created)
01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
01-NAY-1997 (TrEMBLrel. 03, Last annotation update)
MEMBRANE PROTEIN INVOLVED IN MITHRAMYCIN RESISTANCE.
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01-WAR-2001 (TrEMBLrel. 16, Last annotation update)
PUTATIVE CYS3HIS ZINC FINGER PROTEIN ATCTH.
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Fett.Neto A.G., McClung C.R.;
Plant Physiol. 0:0-0(0).
EMBL; U81238; AAB68046.1; -.
Mendel; 7157; Arath;1540;7157.
InterPro; IPR000571; -.
                                                                                               11 protein.
203 AA; 22666 MW;
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Matches 7; Conserv
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Ong E.K., Griffith I.J., Knox R.B., Singh M.B.;
"Cloning of a cDNA encoding a group-V (group-IX) allergen isoform from
rye-grass pollen that demonstrates specific antigenic
immunoreactivity.";
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MEDLINE-94043679; PubMed=8227296;

MEDLINE-94043679; PubMed=8227296;

Hidber P.A., Redwood C.S., Avent N.D., Tanner M.J., Marston S.B.;

Hidber Hidentification of functioning regulatory sites and a new myosin binding site in the C-terminal 288 amino acids of caldesmon expressed from a human clone.";

J. Muscle Res. Cell. Motil. 14:385-391(1993).

InterPro: IPR000075;

InterPro: IPR000255;

PRINTS: PR01076; CALDESMON.
                                                                     Gaps
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Eukaryota, Viridiplantae, Embryophyta, Tracheophyta, Spermatophyta,
Magnoliophyta, Liliopsida, Poales, Poaceae, Pooideae, Poeae, Lolium.
NCBI_TaxID=4522!
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
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                 Length 233;
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SEQUENCE FROM N.A.
Ong K.O., Griffith I.J., Knox R.B., Singh M.B.;
Submitted (FBB-1999) to the EMBL/GenBank/DDBJ databases.
EMBL; AF128442; AAD20386.1; -.
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SEQUENCE 297 AA; 33675 MW; E292C364E00E5D66 CRC64;
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01-NOV-1999 (TrEMBLrel. 12, Last sequence update)
01-NAY-2000 (TrEMBLrel. 13, Last annotation update)
POLLEN ALLERGEN LOL P VA PRECURSOR.
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Last annotation update)
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100.0%; Pred. No. ...
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100.0%; Pred. No. 71;
tive 0; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRT;
                                                                                                                                                                                                                                                                                                                                                               01-MAY-2000 (TrEMBLrel. 13, 01-JUN-2000 (TrEMBLrel. 14, CALDESMON (FRAGMENT).
                                                                                                                                                                                                                                                                                                                                        01-MAY-2000 (TrEMBLrel. 13,
               Query Match 5.1
Best Local Similarity 100.
Matches 7; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Best_Local Similarity 100.
Matches 7; Conservative
                                                                                                                                                                                                                                                                                          PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRELIMINARY;
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                                                                                                                                                                                                                                                                                                                                                                                                                                            Homo sapiens (Human)
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DR InterPro; IPR00104; -.

DR InterPro; IPR00178; -.

DR InterPro; IPR00178; -.

DR ALTERPOS ANTIFREEZEI.

DR PRINTS; PR00308; ANTIFREEZEI.

DR PRINTS; PR00308; ANTIFREEZEI.

DR PRINTS; PR00833; POAALLERGEN.

KW SIGNAL 1 25 POTENTIAL.

FT SIGNAL 26 301 POLLEN ALLERGEN LOL P VA.

SQ SEQUENCE 301 AA; 29767 MW; OEADA8CD711D7DA7 CRC64;

QUETY MATCh 5.1%; Score 7; DB 10; Length 301;

Best Local Similarity 100.0%; Pred. No. 72;

MATChes 7; Conservative 0; Mismatches 0; Indels 0; Gaps

QY 130 EVHAVKP 136

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Db 151 EVHAVKP 157
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Search completed: November 19, 2001, 13:12:30 Job time: 180 sec

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